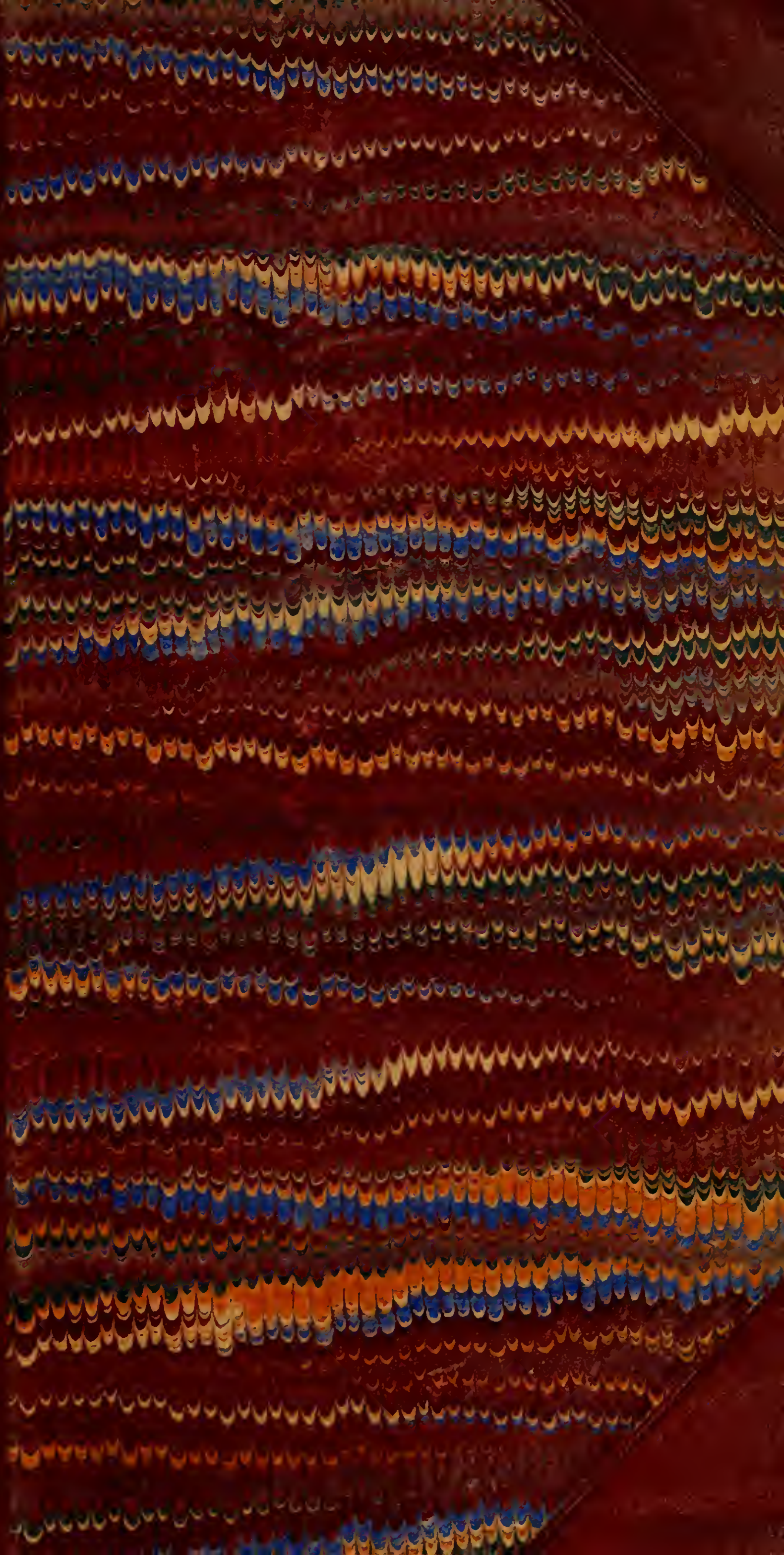

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THOMAS F. WOOD, M.D.

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ORIGINAL COMMUNICATIONS.

THE HÆMOSTATIC PROPERTIES OF AMBROSIA ARTEMISIÆFOLIA (RAG WEED).

By J. H. HILL, M.D., Goldsborough, N. C.

(Read before the Medical Society of North Carolina, at Durham, May 19th, 1885.)

Mr. President and Gentlemen of the Medical Society of the State of North Carolina:

At a meeting of the State Medical Society held at Tarborough in May, 1883, I read a paper on the hæmostatic properties of "Rag Weed (*Ambrosia Artemisiæfolia*"), which was referred to the Committee on Publication. As the paper did not appear in the published Transactions of the Society, I applied to Dr. Wood to have it returned to me. He stated that through some inadvertence it had been lost, and requested me to rewrite it, with any additional evidence I might have of the value of the remedy. I failed to do so at the time, but within the last few weeks having had occasion to use it in two or three cases, and mentioning the fact to Dr. Wood, he again requested me to write an article on the subject.

Ambrosia Artemisiæfolia (rag weed, carrot weed) is, as far as I know, an indigenous annual weed, always following a wheat crop, flowering about the middle of August. Not professing to be a botanist, I cannot give a clearer description of it. Dr. Francis Peyre Porcher, in "Resources of Southern Fields and Forests," says: "*Ambrosia Artemisiæfolia* (rag weed) grows in cultivated lands and pastures; collected in St. John's, Charleston district. The plant is used in fevers in Maryland as a substitute for quinine; a tincture is made or the juice given with whiskey. It is very bitter, and is thought to be useful." It is used as a common domestic remedy for nose-bleed, epistaxis, in Rowan county, where I first heard of its properties and witnessed its effects, as long ago as 1857, where I frequently saw it used to arrest hæmoptysis in the case of a negro carriage-driver of my father-in-law. This negro was a frequent sufferer from that complaint, and always carried a portion of the weed in his pocket, and being attacked would take a chew of it, swallowing the juice, with almost immediate relief, and was told that he had thus used it many years. I also saw it used as a styptic and applied locally in a case of violent epistaxis, in a boy of 10 or 12 with immediate effect, when I thought, from the volume of the hæmorrhage, the posterior nases would have to be plugged. As I stated before, it was the common domestic remedy through that country for these complaints, as I was informed by Drs. Whitaker and Summerell, the latter of whom confirmed my statements at the Tarborough meeting.

In my previous paper I referred to several cases in which I had used the remedy, but more particularly to the following: On the 23d of September, 1882, I was called to see a child, son of Mr. William Smith, aged about 6 years. Found him bleeding from the nose, gums and bladder, passing a short time after I arrived nearly a pint of what I took to be pure blood from the bladder; skin tallowy, and the legs and body covered with spots of purpura, from the size of a pin-point to that of a silver dollar. He had been bleeding for several days, and had been seen by two other physicians, who had given him ergot, lead and opium, aromatic sulphuric acid, etc., etc., with no good effect. I was also informed that two sisters of the father had died from hæmorrhage, and that the family all had difficulty in arresting what to others would seem trivial bleedings. I thought it a very bad case, and so informed the father, but told him that if I could find a certain weed I knew of, I thought possibly I might arrest it. Being a stranger to the family, I saw that they looked upon my proposition rather with suspicion and hesitancy, but at length one of them agreed to go with me and look for it. I soon found a bunch of it in a fence corner, and gathered a handful of the leaves, which I put into a cup of boiling water and made a strong tea, of which I gave a large tablespoonful to the boy, at first every half hour, and then at longer intervals. I plugged the nostrils with cotton saturated with the per. sulph. ferri. Within fifteen minutes the effects of the medicine were seen. The oozing from the gums ceased, there was none from the nose, and, as I was afterwards informed, when he made water it was only slightly colored by blood. I remained with the case four or five hours, and when I left prescribed mur. tr. ferri in 3-drop doses in a glass of water three or four times a day. The next day the father came to town, called at my office perfectly delighted, paid his bill, and since then my reputation has been made in that neighborhood, although I did cure the case with "yarbs." Since then the boy has been perfectly well, except that occasionally in the spring there is a tendency to bleeding from the nose—always arrested, though, at once by the rag weed, of which the father is always sure to have a good supply on hand.

On the 5th of March, 1885, I was called hurriedly to see Mrs. W., of Goldsborough, before breakfast. Her husband came for me very much excited, stating that his wife was bleeding to death, the blood just streaming from her mouth ; that she was the patient of another physician, but that he was absent in Washington at the inauguration. I put in my pocket a package of rag weed, of which I always have a supply, gathered when it is in bloom, and went with him at once. I found the lady propped up in bed with a chamber-mug by her side nearly full of blood, which she was spitting up by the mouthful—evidently a case of hæmoptysis. I pulled off a portion of the weed and requested her to chew it and swallow the juice while I was having a decoction prepared, which, as soon as it was cold, I gave her in wineglassful doses, assuring her it would do the work. In an incredibly short time the hæmorrhage ceased. She was directed to continue the medicine at intervals of three or four hours. I called in the evening and found her comfortable—no blood except when she would cough up a few hard coagula. Called the next morning, found her up, eating a hearty breakfast of beef steak and buckwheat cakes; no sign of blood. A day or two afterwards she sent to my wife and asked her please to send her a little of the "weed," she would not be without it for anything. I put her on the tincture of iron and she has had no trouble since.

The last case to which I shall call attention is a wound of the leg, referred to before. Mr. Wright Smith, to whom I was called on the morning of the 16th of March, 1885. His brother came for me and told me that he had been bleeding for four days, and although another physician was attending him, he wished me to go and see him. I got to the house at 3 o'clock P. M.; found my patient a man about 30 years of age; had always been in good health, except an attack of bronchitis a year before; had complained for a week or more of debility, pains in the limbs, weariness and disinclination for work and shortness of breath. His physician, he said, had diagnosed his trouble from the liver, and had given him calomel, followed by quinine; that four days before he had commenced to bleed from the nose and mouth; had sent for physician, who had given him ergot and aro. sulph. acid, which he was then taking, but as it had no effect, his brother had given him some of the rag weed and advised him to send for me. As the little that he took seemed to do him some good, though he was afraid of it and would not take much, he consented to send for me. I found the blood to come from his nose, tongue, gums (which were very spongy) and throat. When I drew down his lip to examine the gums the blood oozed up in such quantity as to nearly fill the mouth. I gave him a chew of the rag weed and had a cupful of the tea made; as soon as this was cold I gave him a wineglassful every hour. After chewing the first mouthful there was literally no more bleeding from the gums or tongue. As he lived eighteen miles from Goldsborough, I staid with him all night. He passed comparatively a comfortable night. Before I left the next morning he had sat up and eaten a hearty breakfast, with the barest sign of blood when he would clear his throat, which he said came from the coagula in his nose. I will mention that while I was examining him I requested him to let me see his legs, which I found, as I expected, cove ed with spots of purpura. He said that he had not seen them before, and did not know how long they had been there. I put him

3-drop doses of tincture ferri three times a day. Five days afterwards his brother came to see me, perfectly satisfied, since there had been no bleeding since the night after I left, when he had blown the coagula from his nose, there was slight oozing, but the rag weed soon caused it to stop.

Now, Mr. President, having detailed the virtues of one of our indigenous remedies, I would like to say a few words on a subject in which I take much interest, although I may lay myself open to the sarcasm of being an "old woman doctor," a "yarb doctor," etc. But how many of the common domestic remedies of our country are valuable! I myself could name a good many, and I doubt not but that every gentleman present has some remedy in daily use which is not to be found in the materia medica—some remedy which he knows from experience is valuable, although he may have gotten it from an old woman, maybe an old negro. How many of us during the war were forced to use these common remedies, and with what joy we hailed the advent of that valuable work of Dr. Francis Peyer Porcher, "Resources of the Southern Fields and Forests." Suppose each member of the North Carolina Medical Society should contribute a short paper giving his experience with some home remedy, trifling, perhaps, in itself, to him, but collectively of what incalculable value to the profession, particularly so to country practitioners.

Since writing the above I have seen the following extraordinary communication in the NORTH CAROLINA MEDICAL JOURNAL from Dr. W. C. Galloway, of Snow Hill, Green county, North Carolina:

"I have had three severe cases of hæmorrhage of the nose to arrest by plugging the posterior nares with sponge. Rag weed, that Dr. Hill extolled so highly at the Tarborough Convention, did not stop them, nor anything else, short of plugging; though, in justice to the dear, lamented, potent rag weed (do give me a better and a more scientific name for the homespun plant), I must confess that it seemed to do some good in one case."

Why dear? why lamented? I suppose that the doctor must be one of those who can see no good thing in any home remedy, who is afraid to call any medicine by its common name for fear of derogating from the dignity of the profession—who would not call a scratch a scratch, but "merely an abrasion of the external cuticle," as a chill and fever "a tertian or quartern malarial intermittent pyrexia—who believes with Bacon, that "They be the best physicians who, being learned, incline to the traditions of experience, or, being empirics, incline to the methods of learning." Now, I hold, with the same great man, that "He who hath learning, be it ever so little, and holdeth it back from they who have less, is as unprofitable a man as the most ignorant that lives." Did Dr. G. use the remedy proporly? Did he gather it at the proper time? Did he give it in sufficient quantity? I should like really to know, though, why he calls it dear, why lamented. I hope the doctor will be satisfied with the officinal name, "Ambrosia Artemisiæfolia," which I have adopted in this paper, after Porcher and Wood. For my own part I am willing to call things by their common names, believing that "the rose by any other name would smell as sweet."

Just here let me report the following case: On the morning of the 12th of May, at 8½ o'clock, I was called to see Ellen Dosmond, aged 8 years. I got the following history from the mother; Had recently removed to Goldsborough from Norfolk, Va. For the past five years had been subject to frequent spells of epistaxis, for which she had been treated by four physicians of Norfolk, frequently requiring the plugging of the posterior nares. Any slight cut would bleed excessively, and they were afraid to have her teeth extracted, she bled so. Two years ago had her ears pierced for earrings, and the hæmorrhage was so great they feared she would die. I found a stout girl, well grown for her age, but the complexion muddy, face puffed, no purpuric spots, though at times, her mother said, her face was covered with purple spots the size of a pin's point. She was bleeding freely from the left nostril. I gave her a potion of raw weed to chew, and had a strong infusion made, of which I gave her a tablespoonful every half hour. I made a plug of some of the weed and inserted it into the nostril; in fifteen minutes all bleeding had stopped. I called again at 10½ o'clock—no bleeding; at 1 o'clock—no bleeding. At 6 o'clock the grandfather called to see me, and said the child was up and playing about, and has continued so ever since.

A CASE OF APHASIA.

By Julian M. Baker, M.D., of Tarborough, N. C.

(Read before the Medical Society of North Carolina, at Durham.)

Gentlemen of the Medical Society of North Carolina:

I desire to report a case of cerebral injury, followed by hemiplegia, epilepsy and aphasia, in which the cerebral lesian was definitely located, and the mental impairment resulting therefrom closely recognizable. The case is of interest from the fact that it locates with as much certainty, as ne isolated case can, the faculty of articulate language, and demonstrates the fact that very slight injury of the cerebral structure at this point is sufficient to destroy entirely the power of articulation. It corroborates, too, the more recent writers on the subject, proving the conclusions of Gall, Spurzheim and those advocates of Phrenology, as a science, to be erroneous.

A strong, vigorous negro man, 24 years of age, previously in perfect health, a farm laborer, received a lick over the head with a meat hook; immediately became unconscious, and suffered from concussion for twenty-four hours thereafter; after which consciousness returned, but with the inability to articulate.

The patient came under my charge with this history a month after the blow was received. At that time the scalp wound had entirely healed, the cicatrix indicating that it had been not more than an inch long. He presented a dull, morose, languid, sleepy appearance. He understood everything said to him, and, strange to say, seemed to appreciate any humorous allusion more than is ordinarily the case in health. His countenance would suddenly become aglow with mirth, and as suddenly lapse into the melancholy aspect it was before. He noticed everything which transpired around him, expressing his approval or disapproval by the motion of the head. His appetite was good and had been since the symptoms of concussion disappeared; bowels regular.

Upon physical examination the wound was found as above, and located on the line of the coronal suture on left side, and about two-thirds of the distance from the crown of the head to the point of union of the coronal and squamous sutures. The point was indicated by a diagram. I have attempted to indicate the sutures by the serrated lines; in other words, to show the different portions of the cerebrum lying beneath the different cranial bones. The point of injury from actual measurement of the external parts was found at this point indicated, which will be seen to fall within the third frontal convolution of the left side. There was right hemiplegia, with loss both of motion and sensation. The tongue was protruded normally, with no deviation whatever, to the paralyzed side. Deglutition was not interfered with. He had several epileptiform convulsions in the few days following his coming under my care, with a constant daily increase of temperature and decrease of pulse rate ; so that at times the temperature under the tongue would indicate 103° F., with a pulse of not more than 75 or 80.

With these facts presented, the diagnosis was made of cerebral compression with injury of brain membranes and brain substance at the point where the blow was inflicted, and following such diagnosis it was determined to remove the offending material. So, with the assistance of Drs. Williams and Floyd, of Tarborough, and the trephine applied, a button of bone about three-fourths of an inch in diameter was removed. This done, the weapon used was found to have passed through the skull bone, through the dura mater and penetrated the gray cerebral matter about the sixteenth part of an inch deep and wide. In fact, it hardly passed through the membranes. The character of the wound was just such as an ordinary pocket-knife would inflict. The bone was depressed and a slight hæmorrhage had resulted in the formation of a small clot around the wound in the dura mater. The projecting spicules of bone were removed, all the debris washed away, slight pressure on the dura mater with the finger, forcing such portions of the clot as were between it and the brain through the opening, where it was washed off with sponges.

The wound in the brain and membranes was left as it was found ; the scalp thrown over the opening in cranium and the edges united with silver sutures ; a sufficient opening was left for drainage and a dressing of carbolized gauze applied. During the night there was a rise of temperature and pulse and two convulsions. On the following morning Chamberlaine's coil was applied to the whole head, and a constant stream of ice-water at temperature of about 45° kept running through it. Except this no remedy whatever was used.

The patient continued to improve after the coil was applied, so that on the fourth or fifth day after the operation, on my entering the room, he arose from the bed, and, grasping a chair by the bottom round with the previously paralyzed hand, raised it in the air, but still unable to articulate, simply shook his head and smiled. His appetite and bowels continued in good condition, and there was a very satisfactory recovery from the operation. All signs of paralysis gradually disappeared. The power of speech not returning in like ratio, but continued for several months; gradually, though, the aphasia and aphonia gave way to a condition of amnesia, and this a year afterward had entirely disappeared, his health and speech being as good as ever, he being able to follow his avocation.

The wound made in the cranium has entirely closed with new bone, so that the last time seen by me I could strike at that point with a percussion hammer and find the resistance as great as any other portion of a negroe's skull.

I report this as a case of aphasia, as a result of traumatism, and do not consider the loss of speech due at all to paralysis, but to the impairment of the functional activity of the cerebral centre presiding over articulate language, and it corroborates those who locate this centre in the third frontal convolution of the left side. In this case the injury being to the postero—superior horn of the convolution.

I will not go into the case further, but refer those who take an interest in such matters to the various authors who have written on this subject in the last few years. I simply offer it as my quota toward establishing the truth of their observations.

SHALL WOMAN PRACTICE MEDICINE?

Annual Address delivered by Dr. L. Julien Picöt, before the Medical Society of North Carolina, at Durham, May 20, 1885.

NC Med J (O.S.) 16: 10-21, #1, July 1885.

Gentlemen of the Medical Society of North Carolina:

Since the revival of learning, and in isolated instances, even prior to that epoch, each revolving century has witnessed a new departure in politics, in war and in science.

The buried past is accredited its maximum of glory, and over its grave Progress unfurls her standard and shouts her battle cry, "Onward!"

The creed of the Gallilean fishermen has not escaped the inundation of the inrolling wave. Scientific research is still on the alert to find the missing link in the chain which must disconnect man from his celestial origin and give him a status with the beasts of the field. The rock-armed hand of Hugh Miller delivered a crushing blow, and for a while stayed the Development Hypothesis. But, like Banquo's ghost, it will not down.

It is proper and in good taste for men to combat human theories and to improve upon human inventions. In this way the matchlock has given way to the needle gun, the Culverin to the Armstrong, the giant Nile reed, through whose tube the Chaldeans attempted to read the mysterious movements of the orbs which gem the robe of night, to the powerful telescope of the modern observatory; the wooden hulls of monster ships to turretted and iron-clad monitors, military roads, along which marched the weary Roman legions, to those of fire, named by the French so aptly, over which rolls a motive power with force sufficient to draw in its wake over plains and mountains and rivers, with unflagging speed, safety and dispatch, whole armies, with all the requirements for bivouac and field.

The carrier-pigeon coos upon her nest while the electric current has become the postal courier of the world. Good old Ambrose Paré's simple ligature has spared the lacerated flesh and torn limb the additional torture of boiling oil or heated iron to stop the flowing blood. But when God speaks it were best for man to be silent than attempt to reason on "man's disobedience and the fruit of that forbidden tree which brought death into the world and all its woes." And to this pseudo-scientism, yclept Development or Evolution, we know no more stinging rebuke than that contained in these humble lines:

If we, as Mr. Darwin says,
  From monkeys are descended,
Old Time, in changing things, hath not
  As yet the matter mended.
Descendants of our ancestors
  Have no such times as they,
Who had no rent of house or tax
  Of government to pay.
No tailor bills came in—
  Dame Nature clothing gave,
And freaks of fashion did not make
  Of monkey girl a slave.
So the olden way 's the happiest way,
  The new condition fails;
And, Darwin, if you can, my boy,
  Just give us back the tails.
No hurrying out of bed had they—
  No bolting breakfast down—
No hasty walk or ride in fear
  Of some old patient's frown.
The lady monkey sat not up
  'Till day the night did rout
In waiting for the store to close
  And let her husband out.
They had no votes, 'tis true, but they'd
  No banking count to keep,
And o'er Bain Brothers cash account
  They never had to weep.
So the olden way 'is the happiest way,
  The new condition fails;
And, Huxley, if you can, my boy,
  Just lengthen out our tails.
They had no fashion's promenade,
  Where beauty's feet could stray;
But then the old boss monkey had
  No Doctor's bills to pay.
They had no wine, the monkey's young
  Through night to keep a storming;
They saved thereby (you know yourself)
  A headache in the morning.
A peaceful race were they, who ne'er

To war's appeal did fly:
They saved thereby occasions for
A Joint Commission High.
A smarter race were they than that
Which from them hath descended,
And Time, by changing things, hath not
As yet the matter mended.
For the olden way 's the happiest way,
The new condition fails;
So, Ingersoll, if you can, my boy,
Please give us back the tails.

Analogy, so say the writers on Logic, is an unsafe ground of reasoning, and still comparison is nearly allied to this kind of reasoning, and by comparison we attain all knowledge. Unless the authoritative precepts of Holy Writ be set aside and its teachings ignored, we take it for granted that any deflection from its lines of precept lead to pernicious results.

Say what you will about the fitness of things, and that the enlightenment of the age demands change, reform and advance in all its departments, yet the eternal truths promulgated from Sinai's top still must underlie the stratum of society. For instance, the great teacher, even Christ, lays great stress upon becoming shame and modesty in woman. Now, in the modern school of divinity, religion is found to be all æstheticism, for a reverend writer tells us of the drapery of holiness that surrounds the unveiled representation of a naked female form. But then, he alleges, it should be remembered it is a work of art, and this makes the magical difference between it and those vulgar imitations which draw upon their exhibitors the notice of police officers and grand juries. It is a creation, a birth (to use the lingo of the school)—it is a reproduction—it is the soul of the artist transformed to the marble—it is the pure ideal. But in the use of this transcendental dialect we forget the peculiar circumstances under which the child was born. It would be exceedingly gross to call to mind the well-known fact that it had for its sire the creative ideal of an artist not at all distinguished for spirituality, and derived its maternity from the actual of a disrobed Italian courtezan standing before him. We would throw wide open every legitimate door for woman's emancipation from the thraldom that has hitherto cramped her efforts or her energy to attain success in life. Yet there is a sphere in which she must move, or she is unsexed and becomes an object of contempt and scorn.

It is not every girl who can play the role of Taragossa's maid without exciting the ribald jest and incurring the blight of suspicion, or with Joan of Arc, clad in habiliments and riding like a man, go forth to battle and escape without a wound upon her chastity. Tenobia led the hosts of Palmyra and became the mother of an offspring across whose shield was affixed the bar sinister. Cleopatra marshalled the swarthy hordes of Egypt, and enticed the lord of the Roman world from the bed of his legitimate spouse. This question was freshly and practically illustrated recently:

During the session last summer of the Equal Rights Convention, a strong-bodied woman, with strong-minded views, entered a crowded street railroad car. An old gentleman rose to give her a seat, but asked:

"Be you one of those woman righters?"

"I be."

"You believe a woman should have all the rights of a man?"

"Yes, I do."

"Then stand up and enjoy them like a man."

The celebrated Mrs. Dr. Mary Walker, clad in tight trousers, frock-tailed coat and jaunty beaver, lately called upon Miss Cleveland, the Lady of the White House. She was accorded a brief interview, for the refinement of the lady was somewhat appalled at the sturdy bearing of the nondescript.

Very soon after the departure of the she doctor a Miss Man called to pay her respects. After a short conversation, Miss Cleveland remarked:

"Let me congratulate you, young lady, for I have just seen a woman who is anxious to be a man, and in you I see a Man who is content to remain a woman."

And this pithy remark strikes the key-note of the situation. There must be a dividing line between trousers and petticoats. Let us attempt to draw it.

This is a very peculiar age in which we live. No theory, however wild, but has its strong and earnest supporters. The old proverb, that everything is fair in war, finds its realization in free America and autocratic Russia. In the former the signal is given, and Westminster Abbey, Tower of London and Parliament Houses are blown to atoms by dynamite, involving in terrible death helpless infancy and hoary old age ; in the latter the mandate issues, and the deadly dagger is buried in the heart of royalty. This resembles not the high emprise and gallant bearing of the chivalric knight, either in the lists of Ashley or the bloody field of Ascalon. Woman has come to the front in this death-dance of blood, and plays the role of assassination. She is not content to cull flowers in the literary world, but enters the political arena, and in offering herself as a candidate for the Presidency, presents a target for scurrility and defamation. I pity the man who leads her to the hymenial altar, and I am sure upon his gravestone will be read this very mournful inscription :

As father Adam was by woman fooled,
A case that's now too common—
Here lies a man by woman ruled—
The devil ruled the woman.
And who could expect any better?

In this modern march of advance a considerable change has taken place as regards the marriage sacrament. Free-loveism has its advocates, strange to say, principally among women. We are free to confess that we can see no very great difference between a harem of husbands and a harem of wives, and if there be any, the palm of decency must be accorded to the latter, as impregnable walls exclude their shame from public gaze, while the former parade the streets with the insignia of their infamy branded on their brows. There are isles of the sea, and a few circumscribed districts, both in Asia and Africa, where a plurality of husbands prevail, and we would be glad to see the free-loveites make their exodus to those favored regions, and no longer maculate the robe of American womanhood with their mildew breath of prostitution and licentiousness. It does really seem as if woman never departs from her legitimate sphere without exciting contempt or incurring suspicion. She offers herself as a warrior and fails ; as a politician and meets a similar fate ; as a preacher, and even the Quakers blush for her, as with uncovered head,

She tells in a piping voice of Heaven and Hell.

As a last resort for notoriety, she presents herself for medical and legal honors. The bar, of course, presents a tempting field for the display of woman's loveliest attributes. All of our criminals are hightoned gentlemen—all our trials at law purely civil. No man in this beautiful age stands arrayed for seduction or murder, but merely for not wearing cravats and pants *a la mode.* In the keen encounter of counsel no disgusting details, no low and dirty actions are brought to light, no words or language unbecoming a lady's ear are spoken by willing or wrung from unwilling witnesses. All the phraseology there employed is called from the Dictionary of Poetical Illustrations, and defendants and witnesses are merely unfortunate maidens, or sweet young gentlemen to be tried in the high court of love for an incorrect interpretation of a flowery emblem. We do not for a moment question woman's capacity to comprehend the technicalities of the law or the mysteries of anatomy, nor do we question the capacity of a gourd's holding water, only from long use and saturation it becomes rotten from watery contact. There is not a man in this audience, not a father in this State, who would not blush to hear his daughter plead for the acquittal of a seducer. His true manhood would be shocked, and he would hide his head in shame. Beautiful picture—refined and delicate lady talking billingsgate with thieves, burglars and murderers.

Let us shift the scene of her labors. How does she appear in the dissecting room, clad with oil-cloth aprons and armlets, knife in hand, cutting the dead man's flesh under the ghastly glare of gaslight? To every refined mind it is an appalling sight. Eugene Sue's description of the Ghouls visiting the deserted Roman Amphitheatre in quest of human remains left by the wild beasts, is scarcely less revolting. Novelists have made out women actors as angels of grace, but these are creatures of fiction. Will it be urged by reasonable people that the medical men fear her as a competitor in their profession, in any part or division of the profession?

She has wit enough to grasp all the diseases incident to frail mortality. She should have, at least, for she "first brought death into the world and all its woes." She has courage enough, for nothing more delights an unsexed woman than blood and agony. In the gladiatorial combats the loudest bursts of applause rang from coral lips over the lists when the ensanguined tear of the vanquished soaked the sands of the arena.

Swinborne, in Fanstine, aptly hits off this abortion when he makes God and the Devil throw high die for their soul:

"Your naked, new-born soul, their stake,
Stood blind between,
And God said, "Let him that wins her take
And keep Fanstine."
But this time Satan throve, no doubt;
Long since, I ween,
God's part in you was battered out,
Long since, Fanstine.
The die rang sideways as it fell—
Rang cracked and thin,
Like a man's laughter heard in hell,
Far down, Fanstine.
A suckling of its breed you were—
One hard to wean—
But God, who lost you, left you fair,
We see, Fanstine."

She has beauty enough and winning ways enough to render herself agreeable in parlor and hall, by the bedside or at the festive board. Helen only had to show herself on the balcony of Paris' palace when the Trojans grew weary of the war, to infuse new energy and enkindle new courage to despondent hearts; and we are told that even old men—hoary-headed fellows—would gaze with stupefaction at her incomparable loveliness, and exclaim:

"No wonder such celestial charms
For nine long years have kept the world in arms."

She has diplomatic talent to any emergency, let alone the securing of patients in our carnival of death. The Pompadour had only to whisper to Louis XV—only to part those ruby lips, and raise that arm, matchless for grace and symmetry, to set men tugging at each other's throats from the snow-plains of Arctic Russia, to where the Ganges flows under burning skies through fields of wondrous verdure. At her command households remained in wild terror as the war cry of the savage fell from the midnight's gloom, and black men in Sierra Leone closed in the deadly tug of mortal hate:

She loved the games men played with death,
When blood must pour,
And the slain man's blood and breath
Pleased Pompadour.

We think every intelligent member of our profession would gladly welcome woman to a participation of its honors and profit, if we deemed her fitted by nature to battle with its stern, and at times rugged, realities. Exposure to the cold of winter and the glaring heat of summer ill befit her physical powers. There are preliminary steps to be taken by every student of medicine before admission to practice, and woman was not intended to handle crude anatomical material. Praise her (and you cannot praise her too much) for a tender and skillful nurse—for delicate assiduity and heroic endurance by beds of pain. There are bones in the human skeleton which have escaped nomenclature, and there are diseases which no womanly woman could treat or prescribe for.* There is a parallel running through entire nature, and the closer we study her laws and the more rigidly we adhere to their decisions, the grander and more beneficent will be the fruition of our labors. A departure from them inflicts terrible results. God in the creation of every plant affixed to it not a peculiar locality, but a certain latitude, where it should attain its most perfect development, and a transplanting to a less favored clime dwarfs its growth or compels hot-house culture. The giant spruce of Norway, that battles with the icy breath of Arctic gales, becomes a pigmy when transferred to the sunny slopes of Southern hills. On the contrary, the luxuriant beauty of tropic growth pales and withers when it no longer feels the fierce heat necessary to its life. In the creation of animals, save those by a wise Providence essential to man's comfort and civilization, He has assigned each his limited and narrow area ; and by a parity of reasoning it is just to conclude that as He has given to plants and beasts natural boundaries, so He has allotted to man and woman each a peculiar mental and social sphere in which to move. Woman is equally unfitted to handle the axe, the hammer and maul of the strong and hardy laborer as she is to wield the warrior's sword or manipulate the surgeon's knife. Nor would modern advance confine her to the drudgery of manual domestic life. There are brighter and nobler things to be done in home-life than washing cups and cooking food. In the finer and delicate traits of intellectual beauty woman is immeasurably man's superior. In literature, in painting and in sculpture, if she does not rank with Byron, with Rubens and Angelo, she occupies a very lofty and commanding position. In poetry, she has ennobled song by bursts of tenderest pathos ; in painting, she has transferred to the canvas her own sweet ideals of delicate finish and beauty ; in sculpture, she has carved the Lover and Graces with incomparable genius. Say what you will, it is not in strong fortresses, in frowning battlements, in torpedo-boats, in iron-clads, in disciplined armies that a nation's greatness consists. Nihilism is gnashing at the heart-strings of Russia, and will ultimately overthrow its absolutism. The strength and greatness of a nation consist in the affection of the governed for the government, in the high moral character of its people, in their sturdy, manful independence, in a race of men who know their rights, and knowing, dare maintain them. Three virtues are fostered in the home-life, and woman is its presiding divinity. Rome did not degenerate from her high renown under the teachings of mothers and wives like Lucretia—it was only when the times demanded a Juvenal to lay the thongs of his satirical lash, when women had unsexed themselves and unblushingly paraded themselves in the walks of men.

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* I was at the Penn Hospital a few years ago, in attendance upon a surgical clinic given by Dr. Thomas G. Morton, of Philadelphia. There were probably three or four hundred students present, a dozen or more of whom were female students from the Woman's Medical College. About fifteen or twenty minutes before the expiration of the hour Dr. Morton, who is a modest gentleman and a surgeon of high standing in Philadelphia, requested the female students to leave the amphitheatre. He wished to perform an operation not fit for female eyes.

Home, with mother presiding, is the birth-place of every noble and generous thought and action. Nowhere in the broad world are there more happy homes than in free and enlightened America, for nowhere have we a higher type of true womanhood. Home is the original institution for recreation. It was once in a garden, where there must have been quiet nooks and sleepy shadows. Brick walls are now used, because we need substantial materials between us and the tyrannical world. Home should be not only a shelter, but a sanctuary. Mountains may be tunnelled and continents cut into one ; inventions may apply all science, and art may fill the earth with its triumphs, yet the metamorphosis of women into men is a monstrosity that nature abhors. God intended women for wives and mothers. She doctors can never meet the full required duties. The saddest spectacle of the world is these peripatetic dead souls around us. Dead they are—dead in hope and heart—dead to humanity, honor, God. See their footsteps! The grass withers and the flowers perish before them! See their foreheads! The sunshine is cold and pale upon them! The worms of the grave crawl over their hearts, and they dwell among us, cold and lifeless gravestones. If free government, if republican society, if prosperity, if schools, literature and religion should show their amplest and noblest fruits anywhere, it should be in beautiful, happy, joyous homes. It is not where man meets man, but where man and woman meet in the midst of loving children, that we are to look for the real import of human bliss, for the grandest development of womanly traits. Aside from these evils, there are other pernicious influences at work in our domestic society that threaten us with injury. One accustomed to observe the characteristics of the day, must have often noticed what a growing indisposition there is among women to submit to the care and duty of housekeeping, and how eager they are to throw them off. Time was when a home of your own was an object ardently desired, and hearts pledged to each other looked to the quiet companionship of its walls as the consummation of earthly bliss. A wife without a home was scarcely deemed a wife at all. Our old-fashioned mothers and fathers reasoned that if two loving souls united themselves in the bands of matrimony, a home was essential to rivet those bands firmly and closely around them. The honey-moon over, thither they went, and beneath their own roof found a genial occupancy for their time in the responsibilities of their daily tasks. And they were true to nature in the act, for married life demands, with the force of instinct, a home for itself. The heart of our country lives in its homes, and after all the rigmarole of woman's independence, the final test of institutions is in her domestic character at home. The world is an enjoyable place just so far as we render it tributary to our homes, and freedom is a blessing exactly up to the measure that we improve its privileges in forming ourselves after the divine ideal of noble men and women. Side by side stand the altar of liberty and the altar of home, and if Christianity has lighted their flames burning heavenward with steady strength of warmth and luster, let us not forget that it is from those flames that Providence brings the fiery swords which arm us for the highest achievements and our grandest victories. We study Providence on the great theatres of life, where men struggle, where nations rise and fall, where mighty agencies convulse the old order of things and fulfill the decrees of mercy or vengeance. But there is nowhere such a Providence as watches over the hearts and homes. Not only are children born there, but likewise all that is great and good. It is the divine nursery for science and art, for philanthropy and piety. Without it the wealth of the whole world could not enrich a single hand, nor its splendors confer lustre on a single brow. Here men and women are made most sensible of the image of God, here they are trained and disciplined to lofty aims and vast endeavors, here they are chosen and called, baptized, anointed, robed and crowned, here Heaven originates events and ordains victories, here poets receive their lyres, and chieftains are girded for conflict, and rulers are inaugurated for the obedience of mankind. It is a topic common to pulpit and press, and outlasting all others, is never exhausted. Home has created more fiction, written more songs, recorded more biographies, uttered more maxims, inspired more eloquence, and even fills a larger share in the Bible than anything else. Men never weary of it. The fireside, the old arm-chair, the cradle of infancy and the couch of age, the family table and evening parlor, have an immunity from the familiarity that takes the edge from novelty and the common-place tediousness that robs the mind of its elastic tone. Love renews its youth every day, and home is renewed with it. The household incidents of every hour do more to keep thought and hope alive in the soul than all the excitements of enterprise and ambition, and, despite of care and anxiety, they send a steady stream of vigor through motives and sentiments that would otherwise decay. The beautiful things that never die out of men's memories—never become superannuated—never have their morning light darkened or their earthly freshness exhaled, are heavenly witnesses to the noble immortality of pure affections. Whatever else this frail and feeble world fails in, it never withholds its princely revenues from the heart of love, for God is love, and He has made home and all in it to express this truth, and enshrined woman as His minister there. Value is not a term coined like money, out of the materials of the earth ; nor can the commercial exchange determine all questions of profit and loss. If the interests of our higher being are to settle the relations of all objects to us, then, indeed, it cannot be doubted that the sunshine and the rain, as they form the bow of God's promise in the sky, or the dew-drop, as it holds the firmament in its bosom, or the apple-blossom, as it falls to the ground, may contribute as much to the real advancement of our race as the more ostensible means that promote our outward good. Man is much more than a creature of civilization. The animal in him is not only to be tamed, and fed and clothed, but the glorious spirit breathed into him by Jehovah is to receive its share of life from the economy around him, and mature itself for an awaiting destiny. Man cannot live by bread alone. If he were confined to that food he would soon fatten into a devil. These are therefore golden seasons for the soul, harvests to be gathered not into barns, vines that lay no purple fruits, and yet lay their summer foliage over richer gifts.

The wide world is for the race as a race, but home is a superadded world for the heart, and as Jehovah in His ancient temple would have an exclusive chamber, adorned with superior grace for His selecter dwelling, so does man desire his home sacred from intrusion, with woman enshrined in its inner temple as its tutelary saint, its genius and its earthly God!

REPORT OF DR. H. B. WEAVER, CHAIRMAN OF SECTION ON OBSTETRICS AND GYNECOLOGY.

(Read before the Medical Society of North Carolina, at Durham, May 19th, 1885.)

Gentlemen of the Medical Society of North Carolina:

When, at our last meeting in Raleigh, your kind consideration designated me as reporter of the progress in Obstetrics and Gynecology, we had no definite idea of the vast amount of research it required to present to this body of learned gentlemen a *readable* paper on this compound subject, between whose branches we fail to find any sharply defined line of natural division. Therefore, for convenience only, and not theoretically, we shall consider them somewhat separately.

CONSERVATIVE PROGRESS.

In reviewing the current literature on these two branches of the subject, if there be one idea more than another which stands out in bold relief, it is the tendency of the profession towards *conservatism*, especially in Gynecology.

In a recent paper read before the Boston Gynecological Society by Dr. Bigelow, we find words so full of wisdom and so pertinent to this thought, that I shall reproduce some of them here. He says, in speaking of conservative gynecology:

"There are many reasons which conspire to make this otherwise invaluable specialty a matter of ridicule to many of our professional friends. In the first place, many men in country practice have delivered between one and two thousand women, some more and some less, without so much as knowing of the antiseptic rules which are now perplexing erudite societies, and without having to record a single case of puerperal fever.

"I know of two men, one in Maine and one in New Jersey, with such histories.

"Again, there are scores of general practitioners who are governed in their special practice by text-books, and they have lived to find that pessaries, as a rule, are humbugs; that intra-uterine injections are often fraught with much danger; that women may have dyspepsia and functional cardiac derangements without uterine troubles; oōphoritis, if treated with patience and persistence, may be relieved without recourse to surgery; and that many complaints of minor importance, which are the necessary outcome of any departure from a normal condition of a female sexual apparatus, may be overcome by the observance of simple rules, with recourse to elaborate interference; and a woman may be the happy mother of healthy children and enjoy an average share of good health, while carrying about with her a cervical laceration."

In Berlin, the metropolis of gynecology, we notice with satisfaction the impress already made on German literature by the gallant Landau, in his noble fight for conservative gynecology.

Says a noted writer in a letter to the *Journal of the American Medical Association* on this subject:

"I cannot help thinking that Dr. Landau's logic is conclusive, and that his conservatism is more scientific and of more permanent value than the unending round of operations that characterized German gynecology.

"I have heard it said that Americans were prone to resort over frequently to Emmet's operation, and I think there is truth in the assertion; but compared to the way in which cervices are amputated, in whole or in part in Berlin, for lacerations and erosions, which I am convinced could be treated more rationally upon the conservation plan, our operations are only as drops in the bucket. It seems to me that at this pace the number of women in Berlin with normally preserved uteri must be extremely small; indeed, the students have a saying that there is not a woman living n the same street in which Dr. Martin's hospital is situated, who has an entire cervix uteri."

ANTISEPTICS.

There seems to have been a great reaction in the past year in regard to some of the antiseptic principles. That the adoption of *general* antiseptic rules in the treatment of wounds, especially in abdominal surgery, has been the means, chiefly, of the eminent success which has been attained by so many surgeons now admits of no question. But that Listerism has accomplished all that its autho and his followers have claimed for it, seems not to be so nearly proven as was a few years ago. Indeed, the question has been reopened, and the war continues to rage with unabating interest on both sides of the Atlantic.

Lawson Tait's great success in abdominal surgery seems to be due to nothing more nor less than his careful attention to every detail in cleanliness and maintaining absolute control over his patients.

Quite a number, if not a majority of American surgeons have greatly modified their views in regard to antiseptics; the larger proportion of them preferring bi-chloride of mercury to carbolic acid. That this is a superior germicide to carbolic acid, there is no doubt.

OBSTETRICS.

We notice that the progress in this branch is characterized by more moderation and prudence than is exhibited in the department of gynecology.

A New Method of Diagnosis of Pregnancy in its Earlier Months.

Prof. Heager of Fribourg recognizes a peculiar softening suppleness and thinning of the inferior segment of the uterus, that is to say, the portion superior to the insertion of the sacroroterine ligaments, as a constant and positive sign of pregnancy. It can be easily recognized, not only when the uterus is resting as ordinarily, but when it is elastic and soft. The softness of the part is such as to cause the question, whether the neck be not simply in contact with a pelvic or abdominal tumor.

He knows of no pathological condition which could give rise to this symptom.

The cause of this remarkable sign is that the inferior segment of the uterus becomes the thinnest, softest and most elastic portion. It results, consequently, that in practising the rectal touch with abdominal palpation, it is possible to feel this portion between the fingers with the characteristics it presents.

Cocaine in the Uncontrollable Vomiting of Pregnancy.

Dr. M. Weiss records in the *Prager Medicinische Wochenschrift* a case as follows:

A 28 year old woman being pregnant for the fourth time, was taken with vomiting three weeks after the last appearance of her menses (which was September 11th) and sought medical advice for its relief at the end of the second month. She was found to be much emaciated and anemic, keeping her bed for the past eight or ten days from debility and persistent vomiting. No food, even of a fluid consistency, would remain on the stomach.

No medicines seemed to give any relief, nutrient enemata could no longer sustain life, and the danger of death from inanition became imminent. November 7th the cocaine was given in the following prescription:

℞. Cocaine mur. q. s. to make a solution in wine of	0.15
Aqua	150.00

Sig. a small teaspoonful every half hour. The first dose had a slightly bitterish taste, which, from the benumbing of the sense of taste, was no longer perceptible. Some minutes after the sixth dose, the patient took three tablespoonsful of milk, which was well received and was not vomited. After the eighth dose, the patient took with great pleasure a small cup of bouillon with an egg—no vomiting. At 2 o'clock P. M. thirteen or fourteen teaspoonfulls of solution having been taken, the patient was found to be cheerful and bright. She then partook of white meat of chicken and a glass of claret. She thought herself well enough to leave the bed. In consequence of these favorable symptoms the use of the medicine was left off until

4 o'clock P. M., at which time the patient vomited again, a part of what she had taken. Its use was then resumed and kept up until 8 o'clock P. M., when the patient enjoyed and retained some chicken and a glass of Pilsner beer. November 8th the rest of the cocaine was given in hourly doses. There was no vomiting through the day. November 10th the patient left her bed, and since then her conditions have been quite satisfactory.

PUERPERAL FEVER.

The etiology of this disease at present is not fully determined, Leishman, Lusk, and many other eminent obstetricians differing widely in their definitions. Baker believes it to be an entity, while Thomas defines puerperal fever to be puerperal septicæmia. "It matters not," he says, "whether it assumes a form of phlebitis, cellulitis, lymphangitis, etc., the essence of the disorder is the absorption of the poison into the blood of the parturient woman through some solution of continuity in the tissues of the tract."

Dr. Thomas insists upon prophylactic measures in guarding against puerperal sepsis, and lays down ten excellent rules, the observance of which is well for lying-in wards, but is impracticable in private practice.

In practice, it seems to me, all that is necessary is prophylactic cleanliness, thorough emptying of the uterus after delivery, and insurance of uterine contraction. But when the inflammation has been lit up what shall we do? Shall we place our reliance on quinine, opium, stimulants or intra uterine injections—on one or all? The best obstetricians of the day make intra-uterine injections the most important feature of the *new* treatment.

But Dr. Thomas, concerning these injections, says that their use is attended by danger:

"The greatest hazard attending this plan is the entrance of air into the uterine sinuses; the next, the production of hæmorrhage by detaching some of the thrombi of the uterine sinuses; third, danger of forcing the fluid used as an antiseptic into the general circulation; fourth, the causing of convulsions, violent pain and nervous prostration; fifth, the passage of the tube into the fallopian canal, and the injection of the fluid into the peritoneal cavity." But these dangers, he finds, may be to a great extent avoided by attending to details:

(1) "By using a larger injecting tube—as large as the finger—which cannot enter into an open-mouthed sinus.

(2) "By using water warmed to 105°.

(3) "By injecting the fluid into the tube so as to exclude air before passing it up into the os-uteri.

(4) "By exerting only a moderate degree of force in throwing the jet against the uterine walls.

(5) "By proceeding with the whole affair gently, cautiously, slowly and intelligently."

The frequency of their use varies greatly with individual cases. In mild cases of septicæmia, when the temperature comes readily down after the uterus has been washed out, and rises very slowly, they need be used only once in five hours; in other instances every three hours they become necessary; and in bad cases we find that they are required once in every hour. As to the instrument employed, Dr. Thomas once shared the popular opinion of the profession, that nothing but a fountain syringe was allowable, as it threw a continuous stream; but he has now changed his views, and thinks an ordinary Davidson's syringe will more thoroughly cleanse the uterine walls. For this purpose he formerly relied upon the affusion of cold water, the patient lying upon a Kibbe's cot; at the present he accomplishes the same result much more easily and more pleasantly for the patient, by the use of Townsend's rubber-tube coil. In this he has most implicit confidence. It consists of a mat composed of rubber-tube rolled upon itself in a circle, and which covers the whole of the abdomen from ensiform cartilage to the symphysis pubis; by syphon action ice-water is made to run through the tube over the body of the patient into a tube on the floor. By this means Dr. Thomas claims that a temperature of 104° can very readily, as a rule, be kept at 100° for weeks together.

Dr. Thomas also aims to keep the nervous system under control by febrifuge medicine so as to control the tendency of chill pyrexia. For this purpose he thinks nothing equal to quinine. In regard to antiseptics, Dr. Thomas is strongly in favor of bi-chloride of mercury.

In speaking upon this subject, Dr. Paul F. Mundé remarks that he has "always believed that in the majority of cases puerperal fever is puerperal septicæmia, and is due to absorption of poisonous matter from the genital tract." But he does not make this the cause for *all* cases ; that is to say, he inclines somewhat toward the view that puerperal fever may be a disease by itself, and has seen cases in which there was no evidence of septic absorption. With regard to intra-uterine injections, he does not agree with Dr. Thomas—he thinks he does not sufficiently point out the exact indications for their use. It will not answer, he advises, to simply say that every time the temperature rises, or there is a fetid discharge from the vagina, the uterus must be washed out ; there must be more exact indications. He mentions a case from his practice in which there was a rise in the temperature to 103°, but there was no fetid lochia. This was about the time for the beginning of the secretion of milk. In this instance he did not inject the uterus, the temperature fell under the influence of quinine and aconite, and a subsequent progress of the case was favorable.

Dr. Munde claims that ordinary lochia is not necessarily septic, and the genital tract is not necessarily in the condition of laceration, or in a condition favorable to the development of puerperal septicæmia ; that it has been demonstrated by Ahlfeldt that the most poisonous lochia was entirely inoffensive ; and further, he believes that no primipara is delivered without some lesion of the genital tract, while of multipara there is, in his estimation, probably not a case in which there is not some laceration about the cervix.

As to the manner of giving intra-uterine injections, Dr. Mundé does not agree with Dr. Thomas at all. Indeed, he has met with cases in which Davidson's syringe, in competent hands, has produced the most severe collapse. He objects to propelling a stream of water with force into the puerperal uterus, and thinks also there is a time when injections are no longer useful.

With reference to para- and perimatritis during the puerperal state, he advises : "*Do not wash out the uterus.*" As to the drug to be used for injection, he is inclined to favor bi-chloride of mercury solution one to two thousand.

Dr. W. M. Polk considers this disease as identical with septicæmia or surgical pyæmia ; and that the variations that exist in its clinical history or in the pathological lesions, are simply those which are peculiar to the organs invaded. With respect to precautionary measures, in his opinion there can be nothing added to the rules given by Dr. Thomas. As to the actual treatment, the firs thing to do is to wash out the uterus. If, however, this m eans does not reduce the temperature, he uses the wet pack, and gives quinine and salicylic acid at the same time.

Dr. Garrigues adopts pretty much the same treatment as Dr. Thomas, except he uses a tube with an open end and smaller calibre than the Chamberlain.

Concerning the antiseptic used, he finds that bi-chloride of mercury presents great advantages over carbolic acid: "First of all, it is a more reliable disinfectant; next, it is free from odor itself, but is an excellent deodorizer, and even from an economical standpoint, this new treatment is a great improvement."

Dr. Wylie's views are essentially those of Dr. Garrigue.

My plan of treatment is about as follows—as precautionary measures:

(1) I insist on thorough cleanliness.

(2) I administer ergot just before the end of the second stage of labor, to insure contraction of the uterus and expulsion of the placenta.

(3) Never cease until I have removed every particle of the secundines in some way or other.

I give only two cases, which must suffice as illustrations of my mode of treatment.

Mrs. J., aged 20, primipara, was delivered by a midwife. Three days afterward I was sent for. On my arrival I found the woman in a sad plight. Her clothing and bed were saturated with the remains of the fluid portion of the secundines. The fetor was terrible. On examination I found the pulse 130, quick and wiry, temperature 104°, tongue heavily coated, the abdomen was very tense and painful to the touch.

On vaginal examination I found offensive putrefying clots, which I removed. There was partial delirium. I at once thoroughly washed out the vaginal tract with hot, carbolized water.

The following prescription was then given:

℞.	Jaborandi fluid extract	
	Spts. nit. dulc.	āā ℥ j
	Tinct. aconite	gtts. xvi

M. sig.—Teaspoonful in a little warm water or ginger tea—repeated every half hour till free perspiration.

The second dose had the desired effect, and in less than half an hour the patient was perspiring profusely, with severe salivation. After the profuse diaphoresis had ceased, I gave a laxative of calomel, aloes and ipecac, to overcome the constipation. Two hours later the fever had fallen 2°. The kidneys had acted. I ordered the nurse to continue the hot water injections three times daily. Also to give the jaborandi mixture in half teaspoonful doses, in order to keep up moderate perspiration, and if the fever rose, the skin got dry and hot and the patient thirsty, to increase the dose to teaspoonful. On my return in twenty-four hours afterward, I found patient much improved.

About half the mixture had been taken. The pulse was now 98, the temperature 100°, the pain and swelling almost gone. Her mind was now clear, and she wished food. Kidneys continued to act freely, bowels moved, lochia established. The same treatment was continued. The case progressed favorably, and the patient was convalescing. In a few days afterward the same midwife attended Mrs. E. in her fifth confinement. Two days later I was called to the case. I found her with an intensely hot fever. Thirst urgent. Tongue heavily coated, with constipation. The temperature had reached 104½°, pulse 140 and feeble. Great anxiety existed. There was extreme pain in the lower part of the abdomen, which was tense. An examination per-vaginam revealed a small laceration of the vulva. There was a small quantity of fetid lochia.

I adopted the same treatment as in the former case, and in three days all symptoms of septicæmia were gone.

Now the *rationale* of this novel treatment I do not pretend to explain. But it has proven so successful in my hands in so many cases, indeed, in all my cases of puerperal fever, that I shall continue to use it so long as it yields such gratifying results.

TREATMENT OF ABORTION.

As regards the prophylactic treatment, the experience of your reporter coincides with the opinion of Dr. Byford, of Chicago, that there are two clinical facts with the habits of abortion :

(1) When uterine contractions were the prominent symptoms, absolute rest, opium and viburnum would arrest the abortion.

(2) When hæmorrhage was severe all efforts towards arresting the process would prove futile.

Concerning the treatment of inevitable abortion, Dr. Warren

Sawyer, of Chicago, has followed the expectant mode. He believes in the wonderful conservation of nature in these cases, and waits, and allows her to affect the expulsion of the product of conception. He has waited as long as one week.

Dr. J. T. Neilson, of the same city, has no sympathy with the expectant plan of treatment. He never rests till the uterine cavity is empty.

Dr. W. W. Jaggard, in a paper on this subject, thinks the weight of evidence lies in favor of the so-called "*radical treatment.*"

The plan recommended by Dr. Mundé in the *Journal of Obstetrics* is perhaps the best one to follow :

"When the abortion is inevitable, empty the cavity of the uterus at once. For this purpose the fingers are preferable to the instrument. With one or two fingers within the uterus and the other hand on the fundus, we can usually effect the removal of the contents."

But sometimes the walls are so thick and our fingers so short, that we can only touch the ovum and membranes. Then we must resort to instruments. In the selection of these Dr. Mundé's curette or Dr. Cheatham's scoop are to be preferred. We will have little difficulty in turning out the uterine contents with safety and expedition. But when the uterus is not dilated nor *dilatable*, and the hæmorrhage severe, we should, according to best authority, plug the os with tupelo tents.

And here Dr. McLane's injunctions are apropos : "*Don't tampon the vagina; don't apply ice anywhere.*" Dr. Mundé uses the antiseptic injections only when the discharge from the uterus and vagina is offensive. If there are symptoms of septicæmia, and the temperature is unaffected by the use of these injections for twenty-four hours, he thinks they no longer do any good, and then uses sodium salicylate, 10 grains every two hours.

MANAGMEENT OF THE THIRD STAGE OF LABOR.

As to the proper method of conducting the third stage of labor, experienced and learned obstetricians are still at variance.

It seems that the teachings of the best schools of America and Germany are favorable to the plan of early interference. Dr. Hodges advised moderate traction upon the cord at the end of a half hour or hour, and Dr. Meigs stated that he never waited for the spontaneous extrusion more than an hour and a half, for he always supposed that if it would not take place in one hour there were little prospects for its taking place in twenty-four.

Dr. Parvin, who does not altogether sanction this early method of procedure, in writing on this subject says in the *Philadelphia Medical Times:*

"In studying the phenomenon of placental delivery, we find there were three stages, viz: First, the separation of the placenta from the uterus; second, its extension from the uterine cavity; and third, its expulsion from the vagina.

"A practical question is here presented: Is this separation facilitated by ligating the placental end of the cord? In other words, ought the obstetrician to use two ligatures or one? The advocates of two ligatures claim that in this case the placenta being larger, fuller and firmer, cannot so well follow the retractions of the uterus as it can if thin and flexible from loss of blood, and therefore in the former case is more certain and completely detached.

"Few practitioners now are willing to trust nature, but guard against the delay of the delivery of the placenta by adopting the Credéan method of expression, keeping the hand on the uterus at least as a sentinel to warn of uterine relaxation, and better still, as a stimulant to, and reinforcement of, uterine contraction.

"A general observance of this practice reduces to minimum cases of post-partum hæmorrhage and of hour-glass contraction."

Now a practical lesson is presented from the study of the mechanism of placental delivery.

If Drs. Duncan and Parvin are correct in their views of marginal presentation, traction upon the cord is mischievous, for it interferes with normal presentation; but if the French school be correct in their views, that the normal presentation is that of the fœtal surface, such traction facilitates the second stage of delivery.

In the early practice of your reporter the expectant plan of delivery was adopted, but not being satisfied with the results of this method, I determined to adopt a different method of treatment. Accordingly I ventured to try the method recommended by Prof. Credé, though contrary to the advice of older writers. The experiment was crowned with such immediate and satisfactory results, that I determined to practice no other. Since that time I have boldly practiced the so-called "radical plan" of immediate removal of the placenta by gentle traction and expression, and in the last 290 cases have not had a fatal issue.

TREATMENT OF UTERINE HÆMORRHAGE.

At a meeting of the National Medical Association, held at Columbus, Ohio, Dr. J. R. Borland reported a case of uterine hæmorrhage of twenty-five year's standing, which was successfully treated with Extract of Pinus Canadensis.

Dr. Landau, of Berlin, successfully treats hæmorrhage from the uterus with a strong solution of per-sulphate of iron injected into the uterine cavity. In 500 cases Dr. Landau has had but one case of uterine colic. He never uses intra-uterine injections of ice-water because the effect is only temporary. He has frequently used the hot-water injection, but prefers liq. ferri. Dr. Martin injects almost boiling water into the uterus, and then takes a stitch through the cervix to keep it in.

TARNIER'S BASIOTRIBE.

The breaking up of the fœtal head has remained, despite the many proceedings which have been proposed for its execution, one of the most difficult and laborious operations which the obstetrician is obliged to perform. The cephalotribe is, no doubt, an instrument which will crush the matter brought within its blades, but when a fœtal head is retained above a contracted brim, it is difficult to place the blades in such a manner as to seize the base of cranium.

"In 1883 (December 11th) Prof. Tarnier brought to the notice of the Academy of Medicine a new instrument for crushing and withdrawing the head to which he has given the name of basiotribe. It unites in one apparatus the advantages of the cranioclast and cephalotribe; like the former, it seizes the head and fixes it immovably, and it resembles the latter in its powerful crushing capacity. Tarnier's basiotribe consists of three branches of unequal length and a crushing screw. Its total length is 41 centimeters; when it is articulated and closed its width is 4 centimeters; from front to back it measures 4½ centimeters; its weight is 1200 grammes."

For a complete detail of the method of its application and result we must refer you to the January number (1885) of the *New York Medical Abstract.*

Suffice it to say that the great merits of this instrument consist in the fact that after the perforated and first blade are introduced, the *first* crushing of the process is accomplished, when the other blade is introduced the second part of the process is completed. Then, all three of these handles being articulated, it only remains to screw them up and the basiotripsy is completed.

LAPARO-ELYTROTOMY.

In the North Carolina Medical Journal (February, 1885) appears a report of a successful case of laparo-elytrotomy by Dr. Alexander J. C. Skene being the ninth on record, four of which had been performed by this surgeon. Of these four three were successful operations, both mothers and children being saved. Dr. Skene is convinced of the superiority of this operation over the Cæsarian section.

As to the method of operation, the usual incision was made in the left groin. The epigastric artery was secured by Pean forceps, and, after reaching the wall of the vagina, a small incision was made, and this was enlarged by tearing it. Some little time was lost in effecting complete dilation. A living male child, fully developed, weighing seven pounds, was delivered by version and extraction through the wound in the groin. The placenta was delivered by contraction of the uterus, aided by external manipulations. The operation wound in the groin was closed by carbolized silk sutures, a soft rubber drainage tube being carried from the inner angle of the incision downward through the vagina. The after history of the case presented no untoward features. There are certain practical points in regard to the operation to which Dr. Skene directs attention. First, it is all important to have sufficient dilatation of the cervix before the beginning of the operation. Second, in regard to the anatomy of the region involved, his recent operations confirm his former views, that the "only safe guide to the surgeon in his dissection is a thorough familiarity with the appearance of the various organs and tissues, which enables him to recognize the structures as he meets them." Third, that the fear of "danger from hæmorrhage in laparo-elytrotomy is not justified by experience." Fourth, much care is necessary to save the bladder, "in fact," he says, "wounding the bladder is the only accident that has happened" to him in the operation. "In conclusion," he says, "I can only express the hope that this operation will soon become more generally resorted to, especially in those countries where there are so many more unfortunate mothers the subjects of similar deformities."

GYNECOLOGY.

Is the Extirpation of the Cancerous Uterus a Justifiable Operation?

This is still a mooted question. The German school maintains the affirmative, while the Americans argue in the negative.

The Berlin correspondent to the *Journal of the American Medical Association*, writes :

"During the last three years Dr. Martin has extirpated the cancerous uterus per-vaginum 58 times, and his assistant, Dr. Durelius, 4 times. Out of these 62 cases there were only 5 deaths, and these happened sometime ago, when the operation was a comparatively new one ; so now a fatal result is very exceptional. "Such results are among the triumphs of modern surgery."

Dr. Schrœder says that he cannot believe with Americans, that extirpation of the uterus is a needless and dangerous operation. He has had only 25 per cent. of deaths in his cases, and if we do not extirpate the woman will die anyway.

Dr. A. Reeves Jackson, in a reprinted article from gynecology transaction on the above subjects, gives the following summary, which fully reflects the American mind :

1. Diagnosis of uterine cancer cannot be made sufficiently early to insure its complete removal of the uterus.

2. When the diagnosis can be established, there is no reasonable hope of radical cure ; and other methods of treatment far less dangerous than excision of the entire organ, are equally effectual in ameliorating the suffering, retarding the process of the disease and prolonging life.

3. Extirpation of the cancerous uterus is a highly dangerous operation, and neither lessens suffering, except in those it kills, nor gives reasonable promise of permanent cure in those who survive the operation.

Rapid Dilatation of the Uterine Canal.

Dr. William Goodell, at a stated meeting of the Obstetrical Society of Philadelphia, remarked upon this subject:

"For many years I enlarged or straightened the uterine canal according to the requirements of the case, either by tents or Sims' operation, preferably by the former. Having had several serious warnings in the shape of inflammation following these operations, I began to perform them with fear and trembling. Yet nothing untoward happened till the year 1878, when two serious mishaps befel me—a death from septicæmia, after Sims' operation, and one from peretonitis, after dilating with the tent and using the curette.

In search for a substitute for these methods he resorted to rapid dilatation, and says "it has proven so safe and efficient an operation that I wish to urge its claims before the Society." The instruments which Dr. Goodell recommends are two Ellinger dilators of different sizes. These are best on account of the parallel action of their blades.

For a minute description of the operation I must refer you to Dr. Goodell's excellent paper in the *Journal of the American Medical Association.*

Your humble scribe can add his testimony to what has been said in reference to rapid dilatation of the os by Dr. Goodell. I have successfully treated several cases of dysmenorrhea with flexion by this method. One case, in particular, of twelve years standing, is now completely relieved from her suffering, which was so excruciating at each recurrence of the menstrual period that it wholly unfitted her for any duties whatever. I use, however, Nott's dilator, which seems to answer every purpose for ordinary stenosis, with the characteristic "pin-hole" os.

Uterine Displacements.

Perhaps in no other department of gynecological practice has a subject been more thoroughly considered than treatment of uterine displacements, and although much has been achieved in this direction by study, still there remains much diversity of opinion in regard to the propriety and method of such treatment. In a recent paper read before the Gynecological Society of Boston by Dr.

Augustus C. Clarke, of Cambridge, in regard to pessaries, appears the following :

"Without attempting to wade through the history and description of these several singular contrivances, I would state that the main design, in theory, at least, in the treatment of uterine flexions, is to place the unimpregnated uterus of a woman otherwise healthy, in such a plane or position in the pelvis that the circulation of that organ shall be unobstructed."

Dr. Clarke's opinion in regard to treatment is that a tampon of glycerine and tannin, coupled with good tonic constitutional treatment, will do more in relieving the distressing symptoms of a displaced uterus than any other method of procedure. The glycerine he advises according to its well-known action—abstracts fluid from the thickened and œdematous parts, while the tannin, by its astringent power, gives support to the vaginal and uterine wall.

Dr. Robert G. Bell, of Glasgow, recommends alum, instead of tannin. According to this author, the tampon, when saturated with a solution of alum and glycerine, and applied to flexions and versions, acts in three different ways :

1. As a support.
2. As a depleting agent.
3. As an invigorating agent to the uterus and vagina.

Dr. Clarke, in his interesting paper, details several cases he endeavored to cure with different pessaries, but gave them up one after another, as they disappointed him, and found more permanent relief in the medicated tampon.

Matthews Duncan, in speaking of the use of pessaries, remarked that he never used one on any ground in a virgin ; as to the benefit of ante-version pessaries he expresses no belief ; but thinks that if they do good it is not by keeping the uterus straight, it is by preventing further descent of that organ. He further remarks that he has never used an anteversion pessary, as he has never seen any good from their use.

Dr. Emmet is of the opinion that it is only in retroversion and prolapse that mechanical means do any good.

According to Dr. Vedler (Archiv. für Gynekologie), who examined 3,012 women of the menstrual age, there were only 18 suffering from prolapsus ; in the remaining 2,994 the uterus was found normal in only 15 per cent., it was anteverted in 12 per cent., retroverted in 10 per cent., and anteflexed in 54 per cent. Emmet early recognized that versions may exist for an indefinite period without causing any disturbance, and it is only when the circulation is obstructed that discomforts arise.

Treatment af Fibro-Myomas of the Uterus by Laparotomy.

In the *Journal of Obstetrics* we find a summarized paper which was read by Dr. Kœberle at the International Medical Congress, upon the above subject. He said:

"The indication for laparotomy depends upon: 1. Excessive and protracted hæmorrhages and a rapid and continuous growth of the tumor. 2. The more or less advanced age of the patient, the farther removed the patient is from the menopause the earlier the operation will be indicated. 3. The site of the tumor—those located in the lower segment of the uterus or in the broad ligaments always offer an unfavorable prognosis for operative interference. 4. Special conditions, when the tumor makes life a burden to the patient. The operation is *contraindictated* when extensive vacular adhesions exist between the tumor and the anterior abdominal wall; when the tumor is wedged in the lesser pelvis; when there is ascites, which tends to increase and reproduce itself rapidly; when there are present incurable diseases, or such as may jeopardize the progress of recovery. Regarding the *method of operating*, the incision should always be made in the median line. When the incision extends beyond the navel the latter is excised. In pedunculated tumors the pedicle is simply ligated (in two or more portions) and dropped. Comparatively small, limited sessile tumors can be enucleated and the wound then united linealy with dropped sutures. This method, which Kœberle has employed since 1878, gives no absolute protection against hæmorrhage, and should be resorted to only in exceptional cases. The large tumors can be removed only with partial or total extirpation of the uterus. These cases are divisible into two classes, in one of which the tumor extends no farther than the internal os, and is not adherent to the ligaments; the other in which it reaches into the cervix or has developed subperitoneally. The former class of tumors can be operated on in various ways: usually Kœberle isolates the uterus on both sides by a series of dropped sutures, applies two metallic ligatures to the cervix, tightens them with serre-nœud, removes the tumor and fastens the stump in the abdominal wound by a transfixing needle. In this manner the author has operated on about 50 cases. The mortality is about the same as in the extra-peritoneal ovariotomy operation, 5 to 10 per cent. It would be better if the pedicle could be developed, but Kœberle fears that thereby the hemostasis could not be certainly established. When the tumor is situated in the broad ligaments the operation is almost invariably fatal.

The Treatment of Fibro-Myomas by Electricity.

The more conservative method of treating fibro-myomas by electricity is beginning to compare favorably with its bolder rival, the bloody operation. The former method of applying a *weak*, *interrupted* current, and the active pole only within the vagina is now superseded by the application of an *intense, constant* current with the active pole within the uterus. The advocates of this new method of procedure claim for it a great superiority over the former.

Dr. Apostolie, of Paris, records more than 100 cases in which recovery was complete. The tumors did not disappear altogether, but they atrophied and shrank away.

Oōphorectomy vs. Myomotomy for Uterine Fibromata.

In comparing the advantages and results of these two operations for the cure of uterine fibroma, oōphorectomy seems to have the weight of argument and clinical experience in its favor.

Dr. Wiedow, who spoke on this subject at the International Medical Congress, had collected the entire number of oōphorectomies thus far performed for uterine fibroma. His main object was to show the influence on the arrest of hæmorrhages on the atrophy of the tumors. The total number of operations collected were 149. Of these 11 per cent. died of the results of the operation. Of the remaining number 49 were under observation for a year, with the following results: In 36 cases the menopause and diminution of the tum r were produced; in 3 cases menopause (no report of tumor); in 8 cases diminution of the tumor, with slight irregular hæmorrhage; in the other two cases no report of the tumor in one case, with slight hæmorrhage; in the other no report of the hæmorrhage, with diminution of the tumor. These results may be called excellent. Altogether, it appeared to the author of these statistics that oōphorectomy must occupy the first rank, and myomotomy, with a mortality of 33 per cent., the second position. According to the experience of Drs. Wiedow and Hegar myomotomy must be restricted, first, to fibro-cystic tumors; second, to pedunculated subperitoneal tumors, in which the disposal of the pedicle is easy. For cervical myomas, Prof. Hegar thinks the removal by laparotomy gives very bad results; for these he recommends oōphorectomy altogether. In regard to the question whether oōphorectomy or myomotomy is preferable, Hegar occupies the same standpoint as Wiedow. In conclusion, these reports seem to show the error of Lawson Tait's view, that the extirpation of the entire Fallopian tubes is the main thing in the treatment of uterine myoma.

Pyosalpinx.

This seems now to be a recognized disease in gynecology. Lawson Tait has the honor of first pointing out the symptoms and treatment of this disease. According to his views it is a chronic inflammation of the Fallopian tubes, caused most usually by an attack of gonorrhœa. In delivering a clinical lecture in Bellevue Hospital in last October he remarked:

"Until I pointed it out some four or five years ago, the fact was not known, or, at least, had been completely lost sight of, that gonorrhœal inflammation spread along the Fallopian tubes and gave rise to immense mischief."

The tubes become inflamed and occluded, and the risk to life, he thinks, in pyosalpinx from rupture of the tube and discharge of pus into the peritenum, is very great—so great, that the accident occurs in about 50 per cent. of the cases. The method of operating for the cure of pyro- or hydrosalpinx is by his usual abdominal incision. He cautions against operating from below, as some advise; indeed, he thinks it is dangerous.

CORRECTIONS OF ERRORS IN MINUTES OF STATE MEDICAL SOCIETY. Dr. George G. Thomas' name should have appeared as a member of Committee on Nominations in place of Dr. W. D. Hilliard, elected to fill vacancy on North Carolina Board of Health.

Exhibition of bone from spleen, and shot from vermiform, and two successful operations on cataract under the influence of hydrochlorate of cocaine, credited to Dr. Harriss, should have been credited to Dr. J. M. Hayes, of Oxford.

REVIEWS AND BOOK NOTICES.

A Tteatise on Asiatic Cholera. Edited and Prepared by Edmund Charles Wendt, M.D., in association with Drs. John C. Peters, of New York; Ely McClellan, U. S. A.; John B. Hamilton, Surgeon General M. H. S., and George M. Sternberg, U. S. A. Illustrated with maps and engravings. New York: William Wood & Co., 56 & 58 La Fayette Place. 1855. Pp. 403.

If America is not well prepared to meet the expected visitation of cholera this year, it is not for lack of sanitary and literary energy. The medical and sanitary journals have been very active in disseminating knowledge and Boards of Health in many States and cities have issued circulars of advice and instruction on the absorbing topic. Here we have an example of a book written to order for the publishers, on the great topic of cholera, and to be ready by a certain time. Fortunately for the editor, he had the coöperation of Dr. J. C. Peters, the eminent epidemiologist, and the assistance of others mentioned on the title page, and the book was promptly issued. It is surprising, therefore, that it should be a case of successful book-making.

Part I. considers the history of epidemics, beginning with the great epidemic in India of 1817, and concluding with the epidemic in France, Italy and Spain, in 1884.

The second section of this part of a volume gives a history of epidemic cholera as it affected the U. S. Army.

The etiology, symptomatology, course, duration, mortality, complications and sequelæ of cholera are by Dr. Wendt, as also the part on the morbid anatomy and pathological histology of the disease, and diagnosis, prognosis and methods of bacteriascopy.

The prevention of cholera by the destruction of cholera germs is by Dr. Sternberg, and the prevention by public health is by Dr. John B. Hamilton.

The "Doctrine of Koch," promulgated as late as 1884, occupies eighteen pages. In these times of rapid interchange of knowledge these experiments of Koch seem to be already old, so strong a hold have they taken upon the public confidence. The researches since Koch's announcement are given at length, followed by the cholera-bacillus controversy, and the editor's conclusions, the last two paragraphs of which we copy:

"The great credit belonging to Koch consists in the fact that he has pointed out to us the paths along which future inquiry must go. We are to-day able, thanks to his excellent technique, to pursue bacteriological researches with much greater accuracy and definiteness than was possible even a few years ago. As with tuberculosis, Koch's discovery of a distinct organism has given us clearer views, so it is likely to be with cholera.

"It is true that we have not been able to ascertain the full truth. Future views and conceptions concerning the intimate nature of cholera may vary as much as past ones have done. But when the history of cholera shall be written, fifty years hence, it will have to be stated that Koch's discovery of the comma-bacillus constituted a decided step in advance in the pursuit of scientific truth."

The directions for treatment we find to be well considered and told in a straightforward common-sense way.

The author has not failed to notice the inoculations made by Dr. Ferran for the prophylaxis of cholera, but we are sorry to see that he lends his influence to the use of the word "vaccination" to convey the idea of this inoculation. As to Dr. Ferran's attempts "not proven" stands written against them. There is no crucial test to demonstrate the efficacy of inoculations of (supposed) cholera bacilli for the prevention of cholera, and there is no ground, so far, upon which to base a favorable opinion of it: we can only hope for more light.

A SYSTEM OF PRACTICAL MEDICINE BY AMERICAN AUTHORS. Edited by WM. PEPPER, M.D., LL.D., Assisted by LOUIS STARR, M.D. Vol. II. General Diseases (continued) and Diseases of the Digestive System. Philadelphia: Lea Brothers & Co. 1885. Pp. 1312.

Now that the second volume of this System of Practical Medicine is completed, and we have had more opportunity to become better acquainted with the first, we are convinced that America has at last achieved the much needed work of a thorough and systematic practice of medicine, and achieved it in such a creditable way, that it must for years to come be *the* practice. In saying this we do not forget the very valuable works on practice by Flint, Loomis &

Bartholow. The aim of the volumes by the last named authors is more as compendious text-books for indoctrinating the student in the elements of pathology and practice, while the work under notice is a voluminous reference book. In the former volumes all of the teaching is marked by the individuality of their authors, in the latter the subjects are from the press of writers of admitted reputation, the whole under the editorial management of Prof. Pepper.

Among the subjects treated which attract our especial attention is that on the "Intestinal Affections of Children in Hot Water, by J. Lewis Smith, M.D." It is a most welcome article in such a treatise, and the subject has been written afresh and with full knowledge of the advanced position the profession has been able to take by reason of the accumulating knowledge of the digestive ferments, and infant dietary generally.

This volume has a copious index. It comprises 127 pages, and serves as tolerably complete analysis of the contents. This is in such strong contrast to many recent scientific works that it deserves to be particularly noticed, as it enhances the value of the work greatly.

There are many striking matters in this volume that we had marked to quote, but we forbear, feeling quite sure that the purchasers of the work will be numerous, and that it will not be long before every good library will number it among its treasures.

THE OLEATES. AN INVESTIGATION INTO THEIR NATURE AND ACTION. By JOHN V. SHOEMAKER, A.M., MD., etc., etc. Philadelphia: F. A. Davis, Atty., 1217 Filbert Street. 1885.

This is a reprint of an essay several times revised by the author, and presented in this booklet form, in clear type, rescues it from that neglect which, as a medical journal article, it would be likely to receive. Dr. Shoemaker was one of the early contributors to the therapeutics of the oleates.

The author's estimate of the oleate of quinine is very much at variance with that of the present writer. While it is admitted that the oleate of quinine would not be relied upon if the alkaloid could be given by the mouth, it serves a very good purpose, even if in a limited way. The writer has repeatedly detected quinine in the urine of selected patients treated with the oleate, and admits that many times more he has failed.

The oleate of cocaine receives mention, but in the hands of the author it has been only slightly effectual as an anesthetic, and this opinion is no doubt correct.

URINARY AND RENAL DERANGEMENTS AND CALCULOUS DISORDERS. HINTS ON DIAGNOSIS AND TREATMENT. By LIONEL S. BEALE, M.D., etc. Philadelphia: P. Blakiston, Son & Co., 1012, Walnut Street. 1885. Price $1.25.

Dr. Beale's great merit as a teacher is the practical application he demonstrates through his whole work. This volume, at every turn, is studded with practical suggestions on matters of physiology and therapeutics, which, apart from the subject matter, is highly instructive. The work itself is written in a highly philosophic spirit, and for many reasons is more to be desired than many of the works of a similar character, which, by the way, have of late years been numerous enough to confuse one's memory.

This volume is published simultaneously with the London edition, by special arrangement with the author, and is creditably well reproduced, as is usual with the Messrs. Blakiston.

One practical matter came under our notice in reading this book, which we think it well to call to the attention of our readers. It is as follows:

"I feel that by many writers too much has been made of the indications for treatment afforded by urinary deposits. Many cases of what has been called the "oxalic acid diathesis," because the urine contains octahedra of oxalate of lime, may, in truth, be treated by the practitioner just as successfully without taking into consideration the presence of the oxalate, as by laying stress on this fact. The patient will, probably, in either case, be treated with tonic infusions and dilute acids (nitric, hydrochloric, or phosphoric), with a gentle purgative (mercurial in some cases) now and then. Pepsin may also be given. The diet should be simple, and small quantities of whiskey or brandy in Seltzey or Vichy Water, may, in some cases, do good. Some patients must have change of air, and a sea voyage is often the best, as it is the cheapest, way of obtaining rest, and fresh air and change of scene.

"Although the octahedra of oxalate of lime afford no special indication for treatment, the dumb-bells, on the other hand, unquestionably do so; for these bodies may form the nuclei of renal calculi. These dumb-bells have, in fact, a special significance, and, as I have pointed out, ought to be regarded as minute calculi." (P. 96.)

Further, and under the head of oxaluria, he says:

"There is, then, in my opinion, no doubt that the general view entertained by the practitioners of the last generation, that frequent deposit of oxalate of lime was associated with a general condition of the system sometimes called bilious, sometimes nervous or irritable, is correct, and it is certain that many of the cases, particularly when there is decided lowness and depression of spirits, are relieved by those medicines which relieve a congested state of the capillaries and retarded circulation in the liver, stomach and intestinal canal. Small doses of calomel or gray powder every other day, or oftener, for a week, will often relieve patients who have "tried everything," and have even subjected themselves to a long course of waters, and a diet and mode of life which is more like a mild form of penal servitude than is a regimen which a sensible person having a knowledge of the structure and functions of the tissues and organs of his body, would be inclined to voluntarily submit himself to. Even half a grain of calomel or gray powder will often relieve a state of system which has caused its owner the greatest discomfort, if not actual misery, it may be, for many weeks." P. 98.

Dr. Ferran's Inoculations to Prevent Cholera.

There is a general feeling of distrust of the methods employed by Dr. Ferran, in his preventive inoculations in the town of Alcaira, in the province of Valencia. The Academy of Medicine and Surgery of Barcelona report that they believe a means of averting cholera has been discovered. The perusal of this report, says the *British Medical Journal*, leaves the impression that Dr. Ferran has not been working with pure fluids; indeed, this is specifically stated to have been the case in the experiments made by the Barcelona Commission. It is stated that the Guinea-pigs which died presented no indication of septicæmia; but much stronger evidence on this head will be required. The blood, moreover, is stated to have contained micrococci, as well as spiralla and comma-bacilli, which is certainly not the case in Asiatic cholera. In man the symptoms were distinctly of the septicæmic type, and resembled those noted by M. Socin, of Bâle, in some recent experiments with an organism which occurs in osteo-myelitis and in phlegmonous inflammations. The fact that a second inoculation of Dr. Ferran's cultivation produced no ill-results, proves nothing as to the nature of the organism. With regard to the protection of human beings against cholera, there are at present no data for forming a correct opinion. Dr. Ferran, it is true, reports that at Alcira, among 5,432 persons inoculated by him, only 7 cases of cholera have occurred, with no deaths; while there have been 64 cases, with 34 deaths, among the remainder of the inhabitants (about 10,500); but this fact alone does not prove that any true protection has been produced. Indeed, a second report is less favorable; it states that 7,128 persons have been inoculated, that 7 were attacked by cholera, and that 2 died; and that 3,011 have been inoculated twice, of whom none have died; but how many were attacked is not stated. Meanwhile, among the population of Alcira not inoculated, 73 cases occurred, with 39 deaths.

A Practical Treatise on Nasal Catarrh and Allied Diseases. By Beverly Robinson, A.M., M.D. Second Edition Revised. 152 Wood Cuts. New York: William Wood & Co. 885. Pp. 276.

The first edition of this work was received by the profession with marked approbation, and notwithstanding the formidable rivals which have come into the field since that time, it still maintains a first position among these good books. The mechanical execution of the volume is good. Although bearing the date of 1885, if there is any mention of the muriate of cocaine, we have failed to discover it; but of surgical devices—snares, scissors, forceps, palate-retractors, electrodes, insufflators, atomizers, etc., etc.—there is a copious collection.

Hay Fever and Its Successful Treatment by Superficial Organic Alteration of the Nasal Mucous Membrane. By Charles E. Sajous, M.D. Illustrated with 13 Wood Engravings. Philadelphia: F. A. Davis, Atty., 217 Filbert Street. 1885.

This is a beautifully printed essay of about one hundred pages, written with enthusiasm. The illustrative cases seem conclusive of the efficacy of the removal of hypertrophies, polypi and exostoses, followed by cauterization with carbolic, glacial acetic, chromic and nitric acids, or galvano-cautery, and to be most effectual must be applied some days previous to the attack.

This subject is exciting great interest, and this seems to be a fair presentation of it.

BERLIN AS A MEDICAL CENTER. A Guide for American Practitioners and Students. By HORATIO R. BIGELOW, M.D. [Reprinted from the New England Medical Monthly.]

This guide goes into the minutest details about the cost of a visit to Berlin, and residence there as a student. Passage money, hotel fare, professor's fees are all plainly stated, and to those who are contemplating such a trip, it is indispensable.

THE LONDON MEDICAL STUDENT AND OTHER COMICALITIES. Selected and Compiled by HUGO ERICHSEN, M.D. Detroit, Mich.

Punch's Medical Student is well known and enjoyed by a generation still giving, who are willing to welcome it in its fresh dress.

Dr. Erichsen has collected a number of medical anecdotes from various sources, and has brought them all together in a volume which is very enjoyable.

THREE OF OUR SOUTHERN JOURNALS.

We notice with much pleasure the exterior improvement and the renewed manifestations of internal energy and life which two of our esteemed neighbors have recently shown.

The *Virginia Medical Monthly* makes its regular visits to us in a new dress, and with abounding evidences of literary and financial prosperity. Our elder brother, the NEW ORLEANS MEDICAL AND SURGICAL JOURNAL, is the oldest journal in the South, and, indeed, the oldest in the country, having been established in 1844, after months of perplexing financial difficulties, has succeeded in overcoming them all and in presenting to its readers a more attractive appearance, and giving evidence of renewed vigor and promise of usefulness.

Dr. F. E. Daniel, having disposed of the *Texas Courier of Medicine,* announces that he will start a new Journal in Austin, Texas, in July, to be known as *Daniel's Medical Journal.*

REPORT ON THE MORTALITY AND VITAL STATISTICS OF THE UNITED STATES AS RETURNED AT THE TENTH CENSUS, June 1st, 1880. By J. S. BILLINGS.

We have only space to acknowledge the receipt of this large quarto, as it will take some time to examine and digest the vast collection of statistics contained therein.

We quote the letter of transmittal from Mr. James H. Wardle to the Secretary of the Interior, and take particular pleasure in the fact that the extraordinary labors of Dr. Billings are so highly esteemed elsewhere than in the medical profession :

Hon. L. Q. C. LAMAR, *Secretary of the Interior :*

Sir :—I have the honor to transmit herewith the eleventh and twelfth volumes of the quarto series comprising the final report of the Tenth Census, being the report on Mortality and Vital Statistics, by John S. Billings, LL.D., Surgeon United States Army, with accompanying tables.

Too much cannot be said in recognition of the great advantage which the census work has derived from the services of Dr. Billings. While, within his own corps, he has been building a monument to his learning and industry in the preparation of the colossal Index-Catalogue of Medical Literature, he has projected the entire scheme of compilation for the mortuary statistics of the census, has supervised the work in all stages of its progress, and has subjected the results of these vast tabulations to a discriminating analysis and dissection.

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

Thomas F. Wood, M. D., Wilmington, N. C., Editor.

☞ *Original communications are solicited from all parts of the country, and especially from the medical profession of* The Carolinas. *Articles requiring illustrations can be promptly supplied by previous arrangement with the Editor. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the* Journal, *by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to* Thomas F. Wood, M. D., *P. O. Drawer* 791, *Wilmington, N. C.*

THE INTERNATIONAL MEDICAL CONGRESS.

Seldom has there been such unanimity of opinion upon any matter as we have seen expressed in the medical journals of this country on the proposed International Medical Congress. We need not repeat in detail the well-known story of the appointment of the original committee by the American Medical Association, with plenary powers to prepare for the meeting of the Congress in 1887; of the opposition which the printed provisional list of officers and members of the Congress met with; of the movement set on foot to reorganize the original committee, and thus give an opportunity for the admission of some of the discontents to positions in the Congress; of the reorganization of the officers and councilmen of sections in Chicago in such a way as to distribute the appointments over a larger area of the Union, not failing to "punish" (as they say in politics) original members who had condemned the New Orleans movement, or were new code men; how some of the active dissentionists were supplied with prominent places in the new organization; how the leaders of the original committee were compelled by self-respect to resign, and the most prominent members of the original body in Baltimore, Philadelphia and Boston, promptly withdrew their names, thus withdrawing from the Congress a considerable number of the ablest men in the country. It is a record painful to make, not only because it means that the Congress cannot now possibly be what it could have been under the first organization, but because it shows how large a share of medical politics can enter into the meetings of such a loosely constructed body as the American Medical Association, when designing members choose to exert themselves.

The *Journal of the American Medical Association* makes the best it can of the situation, but is almost alone in the position it has taken in defending the unfortunate reorganization. We agree with that Journal that the new appointments, with a few offensive exceptions, have been judiciously made, but we believe that the whole movement which culminated in the Chicago reorganization was discourteous to the original committee, and that the ruling as to the legality of a body having power to reorganize and reinstruct its committees, has no bearing upon a purely scientific body, composed of voluntary members, and working without any other emolument than the reputation which would ensue from eminent ability brought to the task.

The sum of the unfortunate affair may be thus stated: We have been made ridiculous in the eyes of the medical world. The proposed Congress has been severely crippled. The American Medical Association has given evidences of a state of things which must be corrected or be ruined. The new code men by this blunder have been advanced to a position which no act of theirs could have accomplished for them in a quarter of a century.

EDUCATIONAL BLUNDERING—THE WHOLE OF THE SCIENCE OF PHYSIOLOGY TO BE TAUGHT OUR TEACHERS, AND HOW?

The last Legislature made a law requiring teachers in the public schools to be taught physiology and hygienics, with especial reference to the effects of whiskey and tobacco upon the general health, with the ultimate object of imparting knowledge thus acquired to the children in our public schools. One easily sees the benevolent theory of the State in reaching the evils of intemperance through the enlightenment of teachers first, and then the scholars entrusted to them. Very many good people are convinced that if you show folks how greatly they abuse their bodily health by self-indulgence, and put the proposition in some palpable shape, you arrest their evil propensities in the most natural way. Without doubting this proposition, let us see how it is proposed to carry out the State's mandates. One of the injunctions of the law is that a text-book should be selected best adapted to inform teachers upon physiology and hygienics with especial application to the evils of intemperance The book adopted we have before us. It is entitled, "An Abridgement of the Hygienic Physiology, with Special Reference to Alcoholic Drinks and Narcotics," etc., by Joel Dorman Steele, Ph.D. It is a very small volume for such large pretensions, as its pages number, exclusive of introduction and set questions, just 157, and the prodigious task is attempted of teaching the mechanism, functions, hygienics of each process discussed, the diseases most common to different sets of organs, toxicology and how to treat emergencies until the doctor comes. Interspersed amidst these varied topics, we find special information on the evil effects of alcohol. The old temperance lecturer is said to have carried his "horrid example" around with him in lecture tours in the person of a confirmed sot. Here we have a new digression. We have a colored (shall we so misuse a word and call it) illustration, of the "effects of alcohol upon the stomach?" The first figure is a very impossible stomach with a slit in it and drawn apart by hooks to show a healthful stomach. This wonderful stomach is then contrasted with three patches of stomach, we suppose, marked respectively "Moderate Drinking," "Drunkards," "Ulcerous." Then, to deepen the effect, we are shown a bit of stomach "after a long debauch," "death by delirium tremens," and finally, "the cancerous stomach." Language is inadequate to express such a contemptible imposture in drawing and in coloring. The evils of alcohol are told in a style quite consonant with the gaudy sea-weed patterns of the stomachs. If the sharp school-boy lets slip an opportunity to catch the author of this booklet in his chromo-lithographic raid on dram-drinkers, he is not the boy of the same shade of mind that we once knew.

The book is a pitiful farce, and the object of the Legislature could not have been more signally defeated in any other way than by adopting it as a text-book.

N C Med J (O.S.) 16: 51, #1, July 1885.

THE FIRST FEMALE MEMBER OF THE STATE MEDICAL SOCIETY.

Quite in contrast with the manner of the election of the female honorary member at Newberne, some years ago, was the entrance of the first female regular member at the Durham meeting. We doubt if more than a few members knew what was going on when the new member complied with the constitutional requirements, and when it was spoken about very freely among the members who had not before been apprized of the fact, there seemed not to be the slightest opposition. After the furor at Newberne upon the admission of Miss Dimmock, it seems quite unaccountable that no voice stronger than that of surprise, by a lay Secretary, should have been heard, and this only after the act. Singularly enough, the orator, who had not foreseen the probability of the admission of a female member, had already chosen his subject—"Shall Women Practice Medicine?"—and there is but little doubt that our new member was lucky to have passed the Committee on Credentials when she did—that is, before the oration. Notwithstanding the action of the Society, we believe that it was wrong, and that having been duly licensed, the Committee on Credentials should have refused her admittance to the Society.

Diagnosis of Gonorrhœa in the Female.—The *Medical News* states that Martineau, of Paris, points out that the difference between the pus of gonorrhœa and that of non-specific character (leucorrhœa) is, that in the former the pus is acid, and in the latter alkaline. A bit of litmus paper will decide the question.

EDITORIAL CORRESPONDENCE—ORIGINAL GASTROTOMY IN THE MOUNTAINS—HOW MUCH LEAF-FAT IT TAKES FOR TWO BISCUIT.

N C Med J. (O.S.) 16: 52-54, #1, July 1885.

One need not travel a far way in the mountains of North Carolina to learn that it is the region *par excellence* of mother wit, and a region from which our distinguished Senator from the West draws largely his almost inexhaustible fund of witty anecdote. The wit of the Western counties, while not very largely medical in its character, tinges things as solemn as surgery and forensic medicine, and it is well worth a journey of a few weeks in the mountains to pick up the good things which will never be rescued by the "art preservative." In a short journey from Asheville to Charleston, in Swain county, the train was detained for some hours by the destruction of a trestle, just at the foot of a high hill. One of our travelling companions, "a fellow of infinite jest," a physician of cunning skill, full of knowledge of all the broad domain of the mountain region, and known far and near for geniality among his country neighbors, enjoying the soubriquet of "Medicine Man" among the Cherokees.

At the foot of that hill, he informed us, there were the ruins of a whiskey still. Some years ago a party of young men climbed half way up the mountain to have a quiet game of "seven up." As is not unusual, a quarrel ensued, and one of the parties ripped the other's abdomen open, and as he tumbled to the bottom of the mountain he spilt the contents of his stomach, and reached the bottom with the wound quite foul with grass and leaves and lots of sticks. It looked like a serious business, but the wounded man was not dismayed, although it was quite evident that the surgery must be done by the one of his neighbors who had the courage to undertake it, for surgical aid was not to be had.

No gastrotomy was ever executed with such utter disregard of the principles of Listerism, and no dressings were ever applied with such reliance upon the "native," to use Chapel Hill slang. The neighbor selected for the important office of stitching up the wound found the necessary needle in the lappel of his coat, and his faithful fiddle furnished the necessary thread. The stomach incision was closed, all unconscious to the volunteer surgeon of the feat, he was employing a glover's stitch, and the abdominal opening in the same way, and lo! the results!

We have given the account of this case as furnished by the patient and kindly interpreted by our *companion de voyage.* The illustration accompanying this sketch is not intended (we say this for the sake of our contemporary of the *New York Medical Journal*) to illustrate any principle in pathology, but to identify the first case of native gastrotomy:

ASHEVILLE, N. C., June 8, 1885.

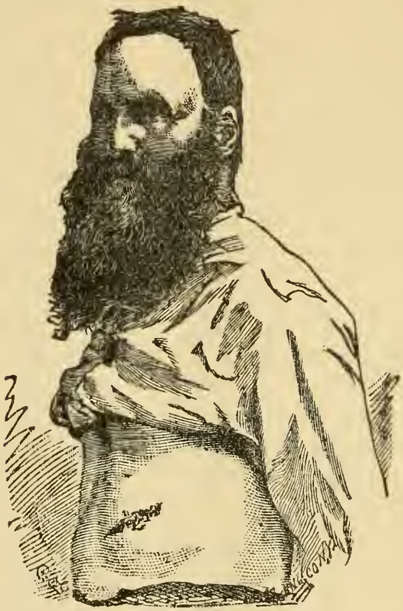
Dear Doctor:—My friend Sharpe was in town a few days ago, and seemed to regret very much that he had missed seeing you. As you seemed interested in the case, I had a photograph of the abdomen taken, showing situation of cicatrix.

From the patient I got the following facts:

"John P. Sharpe, aged 48; while engaged in an altercation with one King Muse, December 18th, 1877, received an incised wound in left hypochondria. The weapon was an ordinary pocket-knife, with long, slender blade. The knife entered between the sixth and seventh ribs; the direction of the blow was downward and inward, towards the median line. The costal cartilages were divided, and the fundus of the stomach was incised for the length of three inches. The external wound was about five and a half inches in length. The stomach was distended, Sharpe having just finished a hearty meal. The contents of the organ escaped through the external wound. Sharpe fell to the ground, and, being on the side of a steep hill, he fell down the declivity. The wound became full of leaves, dust, etc. Sharpe pulled the stomach out of the wound and washed it himself. He says he had the "receiving pipe" of the stomach in his hand, but "he could not get hold of the dejecting pipe."

There being no physician near, an illiterate young man, named Matt. Goodson, took an old needle out of the lappel of his coat, and, taking the silk string off his "fiddle," after finishing the ablutions, proceeded to bring together the edges of the cut stomach by continuous suture. He then sewed up the external wound in same manner. Patient was put to bed on fourth day; the stools contained a large quantity of disintegrated blood, but none at any other time. Says he abstained from food for four or five days, and then commenced to eat whatever he wanted. Says he had no fever at any time; suffered no pain except for a few days; he felt a little sore when he would turn over. On the 13th day he was walking around everywhere, and the 17th day came to Asheville, sixteen miles distant.

The external wound healed by the 12th day; the sutures remained until they dropped out. No dressing but cold water and castile soap. I enclose you a photograph showing wound.



One of the gifted and genial judges of the Superior Court, a fellow-traveller, listened to the narrative of Sharpe's case, and entertained us with one from his extensive experience in the county in the same region.

The story goes—a witness was put upon the stand in Webster, Jackson county, to testify as to the amount of injury a wounded man had received:

Lawyer—Where was ——— wounded, and how?

Witness—He was cut in the belly with a knife.

Lawyer—What was the nature of his wound?

Witness—Well, sir, part of his *leaf-fat* came out.

Lawyer—Can you tell the court how much leaf-fat came out?

Witness—Yes, sir, I think *the doctor cut off just enough for two biscuits!*

EXTRA SESSION OF THE STATE BOARD OF MEDICAL EXAMINERS.

We are informed by Dr. W. J. H. Bellamy, Secretary of the State Board of Examiners, that, owing to the large number of candidates yet to be examined, the Board has voluntarily undertaken to hold an Extra Session in Asheville Wednesday, the 26th August, 1885. This meeting will be convenient to many Western men who have been deterred previously by the distance and the lack of money.

DEATH OF PROF. JOHN STAIGE DAVIS, M.D.

The death of Dr. Davis is a great calamity to the University of Virginia and to the entire medical profession. He died at his home at the University on the 17th July. For a great many years Dr. Davis has taught anatomy and materia medica and therapeutics, and in the former branch he had no superior, and very few equals. He was thorough and minute, and his standard of the acquirements of a student in this branch were very high, winning for the graduates in anatomy from the Medical Department of the University a standing far superior to most colleges. The teaching ability of Dr. Davis has shed lustre upon the College he served so long and so well, and hundreds of physicians throughout the South will read this announcement with profound sorrow.

How to Remove a Plaster Bandage.—Dr. G. Krosz writes that the removal of a plaster-of-Paris dressing is greatly facilitated by first scraping a groove with a knife, and then dropping along it a solution of caustic soda. In a few minutes the plaster becomes pulpy along this line, and the bandage can then easily be cut through. If two lateral grooves be made, instead of one, a lid can be cut out of the bandage, the leg can be lifted up for the necessary inspection and returned, the lid being reapplied and retained with a roller bandage. In this way the plaster dressing is not cracked, and the limb is not jolted in the efforts to remove the bandage. By this method, also, it is a very easy matter to cut any fenestra that may be needed.—*Deutsche Medical Zeitung, New York Medical Record.*

THERMIC FEVER OF INFANTS, OR SO-CALLED SUMMER COMPLAINT.

The subject of the treatment of sunstroke or thermic fever is so hackneyed that we do not propose to inflict any lengthened discussion of it upon our readers. Suffice it to state that, as almost every well-informed person ought to know, no time should be lost in any case of sunstroke in sousing the patient in cold water, putting him in a cold bath, rubbing him with ice, or in some similar way reducing his temperature. The matter of minutes in this case being one of life and death, no time should be lost in waiting for the physician. The only danger is in the mistaking heat-exhaustion for true sunstroke, and this mistake can be avoided by simply feeling the surface of the body. If this is cold, the subject is suffering from heat-exhaustion, and should be put in a hot bath. If it is intensely hot, the patient is suffering from sunstroke.

Not yet overwritten, however, are the various febrile conditions which are really mild forms of thermic fever, but which are, we believe, not yet recognized as such by the very large proportion of the American medical profession. Many years ago Dr. Moorhead, in his classical work on the diseases of India, under the name of "Ardent Continued Fever," described that mild form of the disorder which was so ably pictured in the March number of this journal by Dr. John Guitéras, as he has seen it at Key West, where it has usually been diagnosticated as typhoid fever. This affection is probably very common in the southern portions of the United States, but is rare in our Northern States, because the heat is less continued.

It is notorious that in our Northern cities the infant mortality rises most extraordinarily and most abruptly upon the occurrence of a very hot spell of weather, such mortality being due to the so-called entero-colitis, the symptoms of which may be summed up as high fever, dry tongue and mouth, rapid pulse and respiration, intense thirst and vomiting, purging of greenish watery fæcal or serous matters with undigested particles of food, and more or less apparent evidences of cerebral disturbance, such as insomnia, headache, contracted pupils, delirium, and, finally, coma. In some of these cases the bodily temperature of the little sufferer rises to a point almost reaching the maximum attained in the sunstroke of adults, and we well remember how we used to be taught to explain to the mothers under these circumstances that the disease had gone to the child's head and was hopeless. To Dr. C. Comegys, of Cincinnati, belongs the great credit of having first called attention to the fact that these cases are to be relieved, not by calomel or astringents, or any other drug which relieves inflammation of the intestines, but by external use of cold water. They are, in reality, forms of thermic fever, the intestinal condition being no more a primary disease than is the coma of adult sunstroke a primary condition ; if this fact were clearly recognized by our practitioners of medicine, the mortality rate in our large cities among children during hot spells would be enormously reduced. Dr. Comegys practised cold affusions, but we do not think these have any advantage over the cold bath, and are more trouble. The mothers accustomed to the powders, pills and nauseous mixtures of the older physicians usually object to the withdrawal of the medicine, but especially are they terrified by the use of the cold baths, and the infants themselves are usually prone at first to protest with what little physical strength they have against the plunge into the cold water ; but when it has been once seen that the child that has been tossing for nights, moaning and sleepless, becomes quiet, and on being taken out of the bath, falls into a peaceful slumber, the opposition of the mother soon becomes turned into a grateful confidence. In our own experience even nursing babes soon recognize instinctively the effect of the bath, and older children become eager for it. There is, therefore, after the first essay, usually no trouble in carrying out the plan of treatment ; indeed, not rarely care must be exercised to see that the bath be given not too frequently. It must be remembered that the object of the bath is to reduce the temperature of the child, and that, therefore, unless the bathing is done with sufficient frequency to keep down the temperature it will not be efficacious ; but, on the other hand, it must not be forgotten that it is very possible to overdo the treatment. The thermometer should be freely employed, and the practitioner be guided by its warnings. If two baths in the twenty-four hours should keep the temperature near normal, two is all that is necessary. If eight baths are required, eight should be given.—*Therapeutic Gazette.*

A NEW METHOD OF GIVING A BATH IN TYPHOID FEVER.

By H. C. Wood, M.D.

As is well known, the great difficulty in the use of the bath in fevers is the trouble which is involved in moving the patient in and out of the bath-tub. The following simple device will in great part remedy this trouble and also save the necessity of providing a portable bath-tub. The canvas of an ordinary bed-cot is to be made three or four inches wider than it is ordinarily arranged, and a broad board nailed at each end so as to hold the cot permanently open and project above it several inches in the form of a head- or foot-board. This cot is then arranged alongside of the bed of the patient so as to be on a level with the bed and at the same time firm. Over it is spread an India-rubber cloth, sufficiently large to cover it entirely and to fall above and below over the head- and foot-board. The patient, wrapped in a sheet, is then slipped on to the cot; of course the canvas sags down, and when water is poured over the sheet the man lies half immersed in a pool. If the attendant is provided with two tubs, one containing water and one empty, and also with a large bathing-sponge, the water in this pool heated by the body can be removed by means of the sponge, and fresh cold water soused over the body enveloped in the sheet. In this way the water lying continually between the sheet and the body, as well as saturating the sheet, so envelops the person that the effect of a cold bath can be achieved, and I have seen very rapid reduction of obstinate high temperatures. If the bed upon which the patient lies be a very wide one, instead of a cot being used, the mattress can be so arranged on one side as to sag down sufficiently to form a hollow for the pool, and in this way the bath be given.

I notice that Stephan, of St. Petersburg, affirms that the application of ice-bags over the super-clavicular regions is sufficient to control the temperature in fever, owing to the fact that the cold is brought into close contact with much of the blood of the body by the large superficial veins of the neck. I have had no experience, however, of this method of reducing temperature, but it is worthy of a trial; especially as it seems to be safer to reduce temperature in low fever by external cold than by our at present known depressant antipyretic drugs.—*Therapeutic Gazette.*

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CICATRIZATION IN BLOOD-VESSELS AFTER LIGATURE.

An instructive paper, or rather monograph, was read by Dr. Senn, of Milwaukee, before the last session of the American Surgical Association on the subject of cicatrization in blood-vessels after ligature. A reprint of the paper is now before us. After giving the history of ligature as employed in surgery, and examining the older and most recent views regarding the histology of the blood-vessels, as well as the effects of permanent ligature, the author presents a detailed account of his own investigations and observations. He invariably performed his experiments with strict antiseptic precautions. Fifty-four ligatures were applied in a large number of healthy animals. In twenty-three cases double permanent ligation of arteries was performed, and, in nine, double temporary ligatures were applied. Similar experiments were also made on the veins. Among other things, the deleterious influence of suppuration on the healing process was well shown by the author's experimental inquiries. He found that "in all cases where the wound healed by primary union, the isolated portion of the vessel became adherent, as early as the second day, to the adjacent tissues, and, after a few days more, the interrupted vascular connections were restored."

When temporary ligatures were employed, suppuration, of course, was more frequently seen, on account of the unavoidable interference with reparative processes in the wound. In all cases where suppuration followed operative interference, the vitality of the intervening portion of the vessel suffered. Indeed, if sufficient time was given, this portion of the vessel was, as a rule, found to be completely separated and lying within the abscess cavity.

Nevertheless, secondary hemorrhage was never seen as a result of suppuration, nor was sloughing of the intervening portion observed. The author explains this by the presence of a narrow intravascular cicatrix in both ends of the vessel, which "was usually supported by a strong paravascular ring of connective tissue, which formed a part of the thick wall of the abscess." Dr. Senn formulates the following conclusions as to the result of this part of his inquiries:

1. All surgical operations on blood-vessels should be performed under strict antiseptic precautions for the purpose of preventing suppuration.

2. In aseptic wounds the complete isolation of a vessel from its sheath for a distance of one inch is not followed by any serious disturbance of nutrition in the vessel-walls.

3. Suppuration invariably produces a loss of continuity of the vessel at the seat of ligature.

4. Inflammation beyond the limits of the reparative process interferes with the typical formation of the intravascular cicatrix.

Senn's experiments further led him to prefer catgut to silk, horse-hair, or silk-worm gut as suitable for aseptic ligatures. He demonstrated anew the circumstance that properly prepared catgut does not act as a foreign body, and although finally completely absorbed, resists long enough for the occurrence of vascular obliteration. He states that he has never observed a single case in hospital or private practice where the catgut ligature failed to fulfil its purpose of provisional hæmostasis. It never gave way before the definitive cicatrix had become sufficiently firm to resist intra-arterial pressure.

Dr. Senn is also in favor of freely opening the vascular sheath in order to fully expose the vessel to be ligated. He has never seen any harm result from this procedure. It is to be borne in mind, however, that this teaching is opposed to that of a majority of surgeons, who hold that the vascular sheath should be spared as much as possible.

As regards the time required for permanent obliteration to become established, it was ascertained that it required from four to seven days in arteries, and from three to four days in veins.

There is no doubt that Dr. Senn has conscientiously labored to elucidate a subject, the importance of which requires no emphasis. If his conclusions are in some respects at variance with accepted doctrines, they will all the more stimulate further research. Meantime we may feel quite certain that the double aseptic catgut ligature should be more frequently made use of in our country than is at present done.—*Medical Record.*

CHOLERA ("VACCINATION") INOCULATION.

Dr. Mortimer Willson, of Port Hudson, Michigan, makes a wise observation in the *Therapeutic Gazette* of June, 1885, viz:

"While commending all scientific efforts to penetrate the mysterious domain of disease, every thoughtful physician must know that, in the department of etiology, we are in the midst of an epidemic craze.

"Not content with searching for a germ as the cause of almost every known disease, and its therapeutic destroyer, the enthusiasts in the race for microbes assign new properties to the creatures when found, and present them as therapeutic agents in entirely unheard-of *rôles.*

"The recent claims of some Spanish experimenters in vaccinating (let etymology go to the dogs!) animals and men with "bacillus choleræ" is announced with a flourish of trumpets, and with the comforting assurance that "man tolerates bacillus-vaccination."

"Well, and if he does?

"The value of this must be determined by the immunity or non-immunity of the "vaccinated" from cholera contagion. Can we reasonably expect immunity?

"The value of real vaccination lies not only in the fact that cow-pox is essentially small-pox modified, but much more in the fact that a patient having suffered from small-pox is thereby rendered insusceptible to the action of its virus.

"Now, if one attack of cholera protected, as does an attack of small-pox, we might reasonably hope for benefit from these experiments. As this is not true, what good can come from this homœopathic *baccilization?*"

NOTES.

Death of the Patient thought to be Successfully Treated for Abdominal Aneurysm.—This case of Prof. Loreta (see Journal May, 1885), of Bologna, died 92 days after the operation. He had been in excellent health up to his death ; the tumor had shrunk to the size of a walnut ; the copper-wire was found unaltered and rolled up into a globular mass in the sac itself. The cause of death was rupture of the aorta, just at the angle of junction between the artery and the front wall of the tumor.

Country Practitioners.—One of the important questions relating to the improvement of practical medical knowledge is the question how to preserve and utilize the knowledge of the country practitioner. It too often dies with him ; and that there are many points in it worth preservation there can be no doubt. The tendency of modern medicine has been to abandon drastic measures and watch, and possibly assist, nature. But natural processes are long, and need long observation. The advantages in this respect that sometimes fall to the country practitioner, in comparison with his town colleague, are well described by Dr. S. Dyer, in a short presidential address to the Dorset and West Hants Branch of the British Medical Association. The familiarity between doctor and patient is more intimate, and there is more chivalry in the constancy of patients to their advisers.

[The above is from the *British Medical Journal*, but is as applicable to North Carolina as to Great Britain. We have several times called the attention of our subscribers to the fact that the majority are allowing their clinical experience to perish with them, and are leading the world to believe they have nothing of interest to put in print—but we believe that it is sometimes lack of experience in recording observations, but very largely it is—laziness and indifference.—Ed.]

Toxic Normal Urine.—There are toxic normal principles in urine quite independent of urea, uric acid, kreatin and urinary potash salts, which behave chemically as alkaloids. The effects of the intrarerous injection of urine containing this substance have been studied with renewed interest of late. M. Buchard has shown that there are numerous principles of a toxic character residing in several of the urinary constituents. These principles are not volatile, their toxicity resisting boiling, and, although altered by filtration through animal charcoal, it is deprived of some of its toxic powers, without losing them altogether. A somewhat similar alkaloid substance appears to exist in muscle, liver-substance and blood. These toxic principles in the urine are much intensified when the individual who has passed it suffering from a slight "cold" or catarrh or from extreme fatigue. These alkaloidal substances have not been separated chemically, nor have reagents been discovered to readily detect them. May not this study of the urine poisons lead to the fact that they are identical with ptomaines, and that, after all, microbes, instead of being the causative agents, are only enabled to live and multiply because the presence of these substances is a fit soil for them?

DANIEL'S MEDICAL JOURNAL.—The first number of the above Journal came to hand to-day. It makes a very handsome appearance, and in the immense State of Texas will doubtless attract a large subscription. The editor boldly strikes out in defence of the reorganization of the International Medical Congress. Two medical journals might be well supported in Texas, and Dr. Daniel has the ability to make his always interesting. We wish him success, and trust that his efforts to organize the medical profession in Texas, so well begun, may be triumphantly completed.

THE TREATMENT OF HEMORRHOIDS BY INJECTION.—In an instructive clinical paper in the July number of *The American Journal of the Medical Sciences* Dr. Charles B. Kelsey, of New York, urges the treatment of hemorrhoids by injection of carbolic acid. After an ample experience this has become his routine practice, and in all his cases he has never known a patient to abandon the treatment after it was begun, and he has never failed to effect a perfectly satisfactory cure by it, and he has never had an accident of serious nature with it.

He uses three solutions, one of 15 per cent., one of 33 per cent., one of 50 per cent., and sometimes he uses the pure acid. In a severe case he begins with the stronger ones, in a mild case with the weaker.

READING NOTICES.

WE call attention to the advertisement of the University of North Carolina, which has of late largely increased its Faculty and means of instruction.

R. C. McCANN, M.D., of Benton, Miss., states: "I have prescribed TONGALINE with great success in the treatment of Neuralgia, and have never found any remedy equal to it for that trouble. I consider it a valuable addition to the remedies of the Materia Medica. It is designed to meet a long-felt desideratum, which convinces me that it will shortly come into general use."

BARTLEY'S POCKET URINARY TEST CASE.—Dimensions 4⅓x1½ inches. The case is designed for use of physicians at the bed-side of the patient, with a hand-book of formulæ and directions for use.

The case contains a scientifically correct urinometer, enclosed in a cloth bag to prevent breakage, and a heavy glass tube for urinometer jar, package of litmus paper, pipette for handling urine, two vials of test powders and spoon.

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Address H. Campbell, 140 & 142 Nassau Street, New York.

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THOMAS F. WOOD, M. D., Editor.

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ORIGINAL COMMUNICATIONS.

MICRO-ORGANISMS IN RELATION TO DISEASE.

By Hubert Haywood, M.D., Raleigh, N. C.

(Annual Essay, Delivered before the Medical Society of North Carolina, at Durham, May 20th, 1885.)

Mr. President and fellow-members of the North Carolina State Medical Society:

Having been honored with the position of Essayist, I have thought over the wide field of medical literature, and have concluded to ask your attention to a subject which, while engaging the most general and painstaking attention of the medical world, is not only very important for us as practitioners of medicine and surgery and as sanitarians, but is at the same time very interesting to me. I hope I shall be able in the following pages to present it to you in equally as an attractive and interesting a form as I have found it in my numerous readings. The subject is such a vast one, and the bibliography so immense and conflicting, the task is very difficult to condense it into the short space of *one* essay and do justice to it—to separate the wheat from the chaff, deductions from demonstrations, facts from fancies, etc. I shall of necessity be forced to pass in rapid review only all the important facts bearing on the subject, selecting what I consider the most trustworthy, referring you for details in the methods of research, experimentation, etc., to the various and multitudinous writings on the subject, especially to those of Koch, Pasteur, Klein, Belfield, Gradle, Sternberg and Magnin, Formad, Black, Spina, Sattler, Marcy, etc., to whom I will here now, once and for all, in order to avoid needless repetitions, acknowledge my indebtedness for the following pages. Without further ado, I will therefore invite your attention to

MICRO-ORGANISMS AND THEIR RELATIONS TO DISEASE.

Morphology.—Bacteria, the smallest of all microscopic beings, are the lowest organisms situated upon the limit of the two kingdoms, animal and vegetable. Their vegetable nature is, however, admitted. They are of a true cellular structure, their envelope being of cellulose and mycoprotein, their protoplasm or mycoprotein being a nitrogenous substance, generally colorless, more highly refractive than water. This protoplasm is sometimes homogeneous and sometimes there are portions more highly refractive, vacuoles, special granules, and sometimes diverse coloring matters. They are cells deprived of chlorophyll, of globular, oblong or cylindrical form, sometimes sinuous and twisted, reproducing themselves exclusively by transverse division or binary fission; hence the term schizomycetes and endogenous sporification, living free and isolated, i. e., unicellular or in cellular families, united in chains of spherical elements, i. e., torula, of filament, i. e., leptothrix, in zoöglea or masses imbedded in a mucous substance or hyaline gelatinous matrix produced by them, called mycoprotein, in the form of mycoderma or thick membranous layer, in swarms, in a state of temporary repose as a pulverulent precipitate. They have affinities which approach them to the algæ, and especially to the oscillatoriæ. They are active or motionless. There are two kinds of movement—a movement of the corpuscle upon itself, a molecular or Brownian movement, or a more extended movement of rotation round the axis or a bending of the body, and a movement of translation, which varies as to rapidity and slowness relatively with the length and form of the bacterium. The cilia or flagella which exist in nearly all the true bacteria are hardly the cause of the movements, though supposed to be by many, for there are examples in which the body remains motionless, while the cilia are in violent agitation, and others in which the body moves, while the cilia remain inert or dragging behind. The movements appear to depend rather upon the nutrition or respiration, and especially upon the presence of oxygen. Immobility may also be produced by want of nutriment, poisoning by different toxic substances, dessication, etc. They are nourished and respire by endosmotic absorption. They must have water, nitrogen, carbon, certain inorganic mineral salts, phosphates, potassium and sodium salts and some free access of oxygen—ærobic, while others grow without free oxygen—anærobic, physical, chemical and biological influences favor and hinder their multiplication.

There are three different theories as to their origin :

1. Heterogenesis, i. e., spontaneous generation.
2. Poly-morphism, i. e., evolution or transformation from pre-existing organisms, and that they are different stages of development of known species, whose life cycle is not yet discovered.
3. Autogenesis, i. e., they are developed from organisms similar to themselves by fission, spores, etc.

The first is disproven beyond question ; hence the dogma, *omne vivum ex ovo.*

As to the second, the only transformation which can be compared to poly-morphism, consists in the transformation of spores into bacteria, bacteridiæ, vibrios, etc., and in the different modes of grouping that the cells take in becoming zoöglea, mycoderma, leptothrix, etc.

The third theory is the generally adopted one. They are ubiquitous—present in the air, in waves or clouds, in the atmospheric dust—very few in the adult form, but mostly as permanent spores, in water in considerable quantities, both as adults and spores—the only exception being the waters drawn from the very source of a spring, in and on the soil, on the surface of solid bodies, in the interior of plants and animals, on the surface of the human body and in the interior of the organs in communication with the exterior. They are not found in the blood or tissues of the healthy living body of either man or lower animals.

Classification.—Cohn's classification, which is the best, is as follows :

1. Sphero-bacteria or micro-cocci.

2. Micro-bacteria or bacteria.
3. Desmo-bacteria or bacilli.
4. Spiro-bacteria or bacteria in spiral filaments.
    1. Spirilla.
    2. Spiro-chætæs—screw-shaped thread, with flexible and narrow coil, but less rigid and not so wide a screw as spirilla.

There are also various kinds of schizophites, which approach one or the other of these, e. g., sarcina, in which the division occurs by two perpendicular partitions, in such a manner that multiplication takes place in two directions—ascococcus, leptothrix (Beggiotoa), cladothrix, streptothrix, etc.

A micrococcus is a minute spherical or slightly oval organism, which is capable of Brownian or molecular movement or trepidation. It does not possess any cilium or flagellum, and never multiplies by gemmation or sporification, but only by fission. Their size varies from .0008 to .002 millimetres or a little more. They are divided according to their chemical and physiological function into

(*a*) Septic, which occur with other bacteria, wherever there is decomposition of solid or fluid organic matter. There are a large number of this species.

(*b*) Zymogenic or fermentative, which are associated with definite chemical processes. Such are the micrococcus ureæ, of the mucoid wine and beer fermentation and that causing phosphorescence in putrid meal and fish.

(*c*) Chromogenic or pigmentary, which are characterized by their power of forming pigment of various colors. Such are prodigiosus, chlorimus, fulvus, lutens, auriantiacus, cyaneus, violaceus and candidus.

(*d*) Pathogenic, which are connected with disease and are numerous—micro-bacteria or bacteria or rod-bacteria are slightly elongated and oval or short and cylindrical, with rounded ends. They are capable of spontaneous locomotion, have a flagellum at one or both ends, and perform active spinning or darting movements and divide by fission. They comprise :

(*a*) Septic, which includes only bacterium termo and bacterium lineola.

(*b*) Zymogenic, embracing bacterium lactis and bacterium acetis.

(*c*) Chromogenic, such as bacterium xanthinum and bacterium æruginosum.

(*d*) Cathogenic, of which there are three kinds, e. g., of Koch's septicæmia, of Davaine's septicæmia and of Fowl cholera.

Desmo-bacteria or bacilli or rectilinear filaments are cylindrical or rod-shaped, rounded or square cut, at their extremities. They divide by fission and form spores. They are isolated or in chains—sometimes in swarms, never in zoöglœa. There are attenuations of movements and states of repose, and sometimes there are no movements whatever. There are a great many species which differ :

(*a*) In the shape of the elements.

(*b*) In motility.

(*c*) In the power of forming filaments or leptothrix.

(*d*) Particularly in the thickness and length of the elements.

Sporification in their most striking phenomenon. The spores are generally oval, when fully developed, spherical when immature. Their appearance is always bright and glistening. They absorb dyes not at all or with great difficulty. They are generally a little thicker than the bacilli within which they have developed. The way in which they are formed is always as follows : in one or other elementary cubical, spherical or rod-like mass of protoplasm, either in the extremity or body of the article, a bright dot appears, which refracts light strongly, having a dark outline ; at the expense of the protoplasm this enlarges, until it assumes an oval shape, when it is fully developed. This process does not consume the whole of the protoplasm of an element—at one or both ends a small trace always being unused. The bacillus looks much thickened with its enlarged sheath. Some authors state that the sheath, after having swollen up, remains for sometime as a byaline gelatinous capsule around the spore and the protoplasm remnant, which disappears little by little, and is replaced by a hyaline liquid. This dissolves and is finally lost, the spore becoming free. Others claim that the spore, with the protoplasm remnant, becomes free by the rupture of the sheath. This remnant soon disappears, leaving the spore entirely alone. A spore may be formed under the most favorable conditions in each elementary mass of protoplasm, or it may be only in a small number. Sporification closes the cycle of the life-history of the bacilli. It occurs in many species of bacilli, but not under all circumstances. With many bacilli it occurs only when there is free access of air and an ample supply of oxygen, and has nothing to do, so Klein says, with the exhaustion of the nourishing material, as Buchner thinks. According to Klein the rule is that wherever the spores are formed they germinate into bacilli, if they have access to nourishing material, but if not, or if the nourishing material is exhausted, they remain as spores only capable of germinating into bacilli, when new nourishing material is added, or when transplanted to new nourishing material. Some claim that the germination of the spore does not seem to occur in the same medium, but does so only when transplanted. They are also capable of germinating independently of the free access of air. Spore formation does not take place at low temperatures. Koch places the limits for anthrax at 12° C. and 43° C., but Klein gives 44° C. as the upper limit. An essential element for the formation of spores is moisture. The spores are the permanent or durable seeds, capable of retaining life and of germinating into bacilli, even after what would appear the most damaging influences (that is, damaging to all other kinds of organisms and to the bacilli themselves), such as long lapse of time, drying, heat, cold, chemical reagents, etc. Whether they are kept dry or in the mother liquid, they retain the power to germinate into bacilli after the lapse of long periods, and there is no reason to assume these periods have any limit. This great resistance of spores to low and high temperatures, to acids and other substances, is due to the fact that the substance of each spore is enveloped in a double sheath—an internal sheath, probably of a fatty nature, and an external one, probably of cellulose ; both are very bad conductors of heat. They are frequently mistaken for micrococci, as they are identical in form and aspect, and for granules, etc. Their points of differentiation are their germination and multiplication and staining reactions, together with their optical signs. It is not, however, always easy to extinguish a spore from a micrococcus.

The bacilli are divided into:

1. Septic. These are bacillus subtilis, ulva, septicus, streptothrix and cladothrix and beggiotoa.

2. Zymogenic, e. g., bacillus butyricus (bacillus amylobacter).

3. Chromogenic. Such are bacillus ruber, erythrosporus and syncyanus.

4. Pathogenic. These are numerous spiro-bacteria or spirilla, are filaments of a spiral shape, motile, and, when moving, owing to their shape, follow a spiral course. They are probably capable of forming minute bright spores, and in some species there are cilia. They include :

1. Septic. These are tenue (which forms plicatile or spiro-chætæ) undula and volutans.
2. Pigment. Such are rose-colored and sanguineum.
3. Pathogenic, e. g., spirillum Obermyeri.

Vibriones are rod-shaped, but not straight, more or less wavy and motile. They are the transition between the desmo-bacteria and the spirilla, but rather allied to the spirilla, because of their undulating filaments. Their bodies are filiform, more or less distinctly articulated and always undulating. Their movements are serpentine. They include:

(*a*) Vibrio rugula.

(*b*) Vibrio serpens.

Yeast fungi, torrulaceæ or saccharomycetes are not bacteria, but belong to the order of fungi called blastomycetes. They multiply by gemmation and sporification. The numerous species vary morphologically chiefly in size and physiologically by their action on different fluids. They all have the power to split up sugar into alcohol and carbonic acid. Grawitz has proven that oidium albicans, which is the recognized cause of thrush, is identical with the oidium variety saccharomyces mycoderma. Mould fungi, hyphomycetes, mucorini or mycelial fungi consist of branched and septate hyphæ, composed of rows of cylindrical cells. They increase in number by fission and budding or gemmating laterally. The mycelial fungi, called ascomycetes, are the only ones which need engage our attention. They are charcterized by the fact that one or the other branch of the mycelial hyphæ produces at its end a series of spherical or oval cells—the conidia spores or conidia. In addition to this some of the hyphæ form peculiar large mother cells or sporangia, in the interior of which a number of spores are formed by endogenous sporification. They are divided into:

(*a*) Oidium Lactis—morphologically identical with the fungus causing favus, herpes tonsurans and pityriasis versicolor of man and animals, according to Grawitz, while Malcolm Morris and G. C. Henderson claim that the fungus causing herpes tonsurans is identical with the mycelium of penicillium.

(*b*) Aspergillus. This very common mould is subdivided into different species, according to differences in the coloration of the mycelium and spores. Lichtheim showed that the spores of aspergillus flavescens and fumigatus would, when introduced into the vascular system or peritoneal cavity of rabbits, sometimes grow and produce death with symptoms of metastasis into the various organs due to localized foci, where these spores grow. The spores which possess such pathogenic properties are not at all dependent upon acclimatisation and are not ordinary moulds, but a distinct species of aspergillus, the spores of which, under all conditions of growth, are capable of producing in rabbits the mycosis in question.

(*c*) Penicillium.

(*d*) Mucor, which belongs to the phycomycetes fungi.

(*e*) Saphrolegnia, which also belongs to the phycomycetes fungi. It grows on the skin of living fish and causes here severe illness, often terminating in death. Prof. Huxley has shown that the salmon disease is caused by this parasite.

Actinomyces are peculiar, club-shaped corpuscles, homogeneous and of a bright, slightly greenish lustre. They are the cause of a disease called actinomycosis. Bolinger first described the disease in cattle. Israel first pointed it out in the man, and Ponfick has proven that it is not a rare disease. Johne has trasmitted the disease by inoculation from cattle to cattle, and J. Israel claims to have artificially cultivated the actinomyces on solid ox-serum. Having now finished the discussion of the micro-organisms other than bacteria, to which it was necessary to ask your attention, I must now return to bacteria proper.

Bacteria cause the return of dead organic matter to the atmosphere and water. If, then, the equilibrium is maintained between living nature and dead nature, if the air has always the same composition, if the waters are always equally fertilizing, it is thanks to the infinitely minute agents of fermentation and putrefaction. Bacteria also invade the living organism and bring in their attack the double character of infinite smallness in the apparent means and powerful destructive energy in the results. From this source comes disease. The germ theory supposes the invasion of the organism by microscopic parasites or their germs, and considers diseases as a struggle between the organism and the parasites invading it. It discards the old ideas of impurities of the blood, chemical dyscrasia, a genius epidemicus, the omnipotent bug-bear, cold, and eliminates the factor accident, assigning disease, which is a disturbance of the normal play of some one or different parts of the organism—the reaction to an unaccustomed influence—a place in the Darwinian programme of nature.

Among the most potent arguments advanced in favor of the germ theory may be mentioned the following: Every species of living beings throughout nature struggles for its existence with all other beings with which it comes in immediate contact, in many instances the smaller species preying upon the body of larger creatures and deriving from the organism of their host their means of support. Parasitism is of common occurrence throughout the animal and vegetable kingdoms. Indeed, it is claimed that all diseases of plants are of parasitic origin. We also find in the bodies of higher beings the parasitic existence of lower animals, such as intestinal worms, trichina spiralis, the filaria found in the blood of chyluria, etc. The development of lower plants in the interior of animal bodies—in fact, in all animals, down to insects and worms, producing disease, is of much more frequent occurrence, one of the best examples being the pebrine of the silk-worm. In the higher animals and man there are certain affections of the skin due to the growth of various vegetable parasites and different fungi on the affected spot. Now, look at the infectious diseases, and what do we find?

The period of incubation, the unlimited reproductive power of the virus, the cyclical course and self-limitation of the disease.

The stage of incubation can be explained by the assumption of no unorganized virus. All mere chemical compounds and potent chemical poisons with which we are acquainted, even the ferments ptyalin and pepsin, especially when injected subcutaneously, act promptly and begin to manifest the characteristic effects, as soon as absorption has occurred, their poisonous effects bearing a relation to the dose in which they are administered. The stage of incubation is then the period during which the inducted organisms are multiplying. How else can we explain the various durations of the incubative stage characteristic of the different diseases. We cannot conceive that one chemical poison should require two to four days for the manifestation of its constitutional effects, as in scarlet fever, another forty days, as in syphilis; but we know different micro-organisms multiply with different degrees of rapidity. The unlimited reproductive power of the virus, characteristic of many infectious diseases, cannot be attributed to an unorganized poison, or even organic ferment. A drop of blood from an animal poisoned with opium or strychnine exhibits only the power of the diluted poison. A drop of vaccine lymph, of variolous or gonorrhœal pus induces, in successive generations, unlimited quantities of identical material. This effect cannot be justly ascribed even to any physiological unorganized ferment. Ptyalin can, it is true, convert into grape sugar many times its bulk of starch, and the ptyalin is not thereby diminished in quantity ; but it is not increased. It does not multiply or reproduce itself. The virus of an infectious disease must be something capable of reproduction, and this power is the peculiar characteristic of an organism. No unorganized poison, acid, salt, alkaloid, ferment is at present known which is capable of manifesting the phenomena shown by the virus of syphilis, variola, scarlatina, etc. The cyclical course and self-limitation of the infectious diseases can also only be accounted for by the vital activity and life history of micro-organisms. Many infectious diseases are intimately associated with climate, soil and topographical features, indeed, indigenous to certain districts.

In nature we also find that many plants and animals of larger growth, as well as microscopic organisms, including fungi, have decidedly limited habitats. What stronger proof is wanted to establish the relation of cause and effect than the mere recital of the above facts ? Yet we cannot let the matter rest here. The germ theory has still more substantial foundations—clinically the measures and remedies that have the most beneficial effects in the prevention, treatment and cure of the different infectious diseases have been proven to be antiseptic and germicidal in their properties. Lastly, there is the direct proof of the certainty of the germ theory in the artificial cultivations of micro-organisms, associated with certain diseases and obtained from the subjects of such diseases, in sterilized, nutrient fluids and inoculations with these pure cultures, several generations removed from the original source, thus reproducing the original disease, with all of its characteristic features. Yet, in the face of all this proof, there are some still bold enough to contend that, while admitting the accuracy of the experimental results obtained with micro-organisms, yet, that the invading parasites are the mere carriers of the non-living ferment, which they claim is the special poison causing the disease—possessing all the malignant potency—the micro-organisms being merely secondary or epiphenomena. Inoculation experiments with a pure culture sufficiently removed from the natural infecting material to exclude this hypothesis. If we take a fluidrachm of a sterilized, nutrient fluid, and introduce one minim of infectious material, and then take one minim of this and infect another drachm of culture fluid and carry this on to the eighth culture, the degree of dilution of this original material will be one part in 1,679,611,600,000,000. This infinitesimal portion of a hypothetical chemical virus would therefore practically amount to nothing, and as this eighth culture possesses all the virulence of the first, the poison must be reproductive ; therefore bacterial. Besides the organisms, introduced into culture not as seed, disappear as quickly from successive cultures as does the non-living material with which they are associated, and we may very soon leave them out of the account, although each successive culture fluid is invaded throughout by their numerous progeny.

Here a most interesting question presents itself : How do micro-organisms gain access to the human body, and how do they obtain a foothold ?

The prevalence of bacteria in the vegetating condition and dried in suspension in the air, evidently brings them into contact with the animal body. They exist usually in a dried state on the surface of the skin and hair, and cannot be removed entirely by washing. With every breath we take, with every morsel of food we consume and with the water we drink bacteria gain access into our bodies. Here they do no harm, if the conditions are unfavorable to their multiplication, if the animal is insusceptible, or, in other words, as some believe, if there is present in the system a chemical substance, the product of the living cells, which is hostile to their reproduction. They then die and are heard of no more. If, on the contrary, we are susceptible, if the animal body contains a certain chemical substance necessary for their sustenance, if they find a favorable soil, bacterial life and activity are soon manifested. Although we may be, to a certain extent, insusceptible, and are possessed of a certain amount of inherent resistance, yet bacteria may evolve a poison themselves, which impairs vitality, and thus gain a foothold, or, our health being below par, our vitality lowered by any cause whatever, by sickness, dissipation, poisons, etc., our resistance is overcome, and they in this way gain a foothold. We may thus have either an inherent or acquired susceptibility. As a result of this victorious struggling with the animal cells, we have produced diseases in their protean types. We are of course speaking only of pathogenic micro-organisms, to which we must now confine our attention.

Now, how is this injury to their host brought about? Probably in three ways:

1. Mechanically, by blocking ur the capillaries and the formation of emboli.

2. By appropriating something from the vital fluid or from the tissues invaded by them, e. g., oxygen, etc., which are essential for the maintenance of vital processes in the living animal.

3. By evolving at the same time it appropriates material for its own nutrition, some poisonous chemical product or excreting some zymogen or ferment, which is the immediate cause of the morbid phenomena in the infected animal.

Having thus caused so much mischief, what stops their multiplication? how does recovery take place, and how do they disappear from the system?

The following are offered in answer to these questions:

The products of their own vital activity arrest further development.

They are therefore both bane and antidote.

They consume, or are instrumental in eliminating or destroying some chemical compound necessary for their existence and multiplication. This is the exhaustion theory.

With the death of the bacteria the convalescence of the host begins. The animal cells regain their normal activity. The leucocytes digest the bacteria, or, as Sternberg expresses it: "The bacteria disappear from the circulation by the superior vitality of the white corpuscles, which, in their amœboid motions, may surround and assimilate the captured bacteria." Health is thus reëstablished.

At this stage of my subject several important inquiries present themselves, which I cannot, in justice, pass by:

Prominent among these is the question of immunity.

Although proper functional activity, or the presence of a chemical substance may doubtless decrease susceptibility to infectious diseases, it is evident that such activity does not necessarily confer immunity. At present but two avenues to such acquisition are known:

1. A natural attack.

2. The artificial induction of the disease in a mitigated form by vaccination or inoculation. It is, however, well to remember that

immunity against subcutaneous inoculation is not necessarily synonymous with immunity against infection through mucous membranes especially of the alimentary canal. There are several theories advanced to explain this immunity. The exhaustion theory supposes that during the first attack the organism consumes some chemical compound or pabulum necessary for its growth and multiplication, and as soon as this substance becomes destroyed, the organism cannot further multiply, and that, owing to the subsequent absence of this same chemical compound, a new infection by the same organism is not possible—the individual is protected. The antidote theory contends that the organisms multiplying and growing in the body during the first attack, produce, directly or indirectly, some substance which acts as a sort of poison against a second immigration of the same organism. The tolerance theory assumes that, owing to the first attack, the cells of the tissues so change their nature that they become capable of resisting the immigration of a new generation of the same organism, which property or peculiar qualities they transmit to their progeny through numerous generations. The known facts in regard to the hereditary transmissions of inherent or acquired properties, predispositions and insusceptibilities by the protoplasmic cells would indicate the transmission of such a tolerance. The transmission of acquired properties is shown in the budding and grafting of choice fruits and flowers, produced by cultivation upon the wild stock from which they originated. The acquired properties are transmitted indefinitely, and the same sap which on one twig nourishes a sour crab-apple, on another one of the same branch is elaborated into a delicious pippin. The tolerance to narcotics—opium and tobacco, and to corrosive poisons—arsenic, which results from a gradual increase of dose, are examples of acquired tolerance by cells to poisons, which at the outset would have been fatal in much smaller doses. The next most important consideration is that of environment, for upon the settlement of this point rests one of the foundation-stones of bacteriology.

While it would appear that both septic and pathogenic micro-organisms, when growing under certain extraordinary conditions are capable of suffering some modifications in their morphological and physiological behavior, it is nevertheless stoutly denied, on good grounds, that a septic organism, which cannot ordinarily grow in the living body and is associated with putrefactive changes in dead organic material, can be transformed into a pathogenic organism, which can grow in the living body and cause disease and *vice versa.* The three distinct micro-organisms mentioned as possessing such properties are: bacillus, subtilis, jequirity bacillus, and common mould aspergillus. The arguments advanced in favor of these all fall to the ground. As to the transformation of the bacillus subtilis into bacillus anthracis and *vice versa,* there are shown to be errors of observation and carelessness in experimentation. The jequirity bacillus turns out to be only an epiphenomenon, the pathogenic element resolving itself into the alkaloid jequiritin or ferment abrin. The specific aspergillus is only another species of the common mould. We are then asked how do we explain the production of pyæmia and septicæmia in rodents by the injection of putrid organic substances? The organisms connected with these morbid processes possess this pathogenic power *ab initio,* for although organisms may be morphologically similar, yet they may not be physiologically identical. What, then, must we conclude from all this? There are some definite micro-organisms, although as a rule existing and growing in various substances of the outside world, have the power when finding access into the body of a suitable animal to grow and thrive here also, and to induce a definite pathological condition, but this power is inherent—they have it from the beginning. It cannot be acquired by any means. The leopard cannot change his spots, neither can the lion become a lamb. One had just as well try to transform the bulb of the common onion into the bulb of the poisonous colchicum.

Last, but not least, come attenuation of virus and antiseptics and germicides.

Attenuation of virus or diminution of virulence may be effected by the method of Pasteur of prolonged exposure of virus to contact with oxygen, by the method of Toussaint of subjecting it to a temperature for a short time a little less than is required for the complete destruction of vitality—both of these plans diminishing its reproductive activity, by the method of Chauveau of dilution or inoculating only a small number of active bacteria, which the system is capable of resisting, to a certain extent, by the method of Arloing, Cornevin and Thomas of intra-venous injection, as done in symptomatic anthrax by these experimenters and by the action of chemical reagents, as shown by Sternberg. Virus may also be modified by its passage through different series and species of animals. Also all temporary influences, which, if persistent, would destroy the bacteria, reduce permanently their power of reproduction and of harming the animal body. As for antiseptics and germicides, I can hardly do more than define the terms, for time forbids more than this passing notice of a subject upon which a whole essay could be written. The importance of the subject, therefore, bears no relation to the summary manner in which I shall be forced to dismiss it.

An antiseptic is an agent which is inimical to the growth of micro-organisms, either by changing the nutritive qualities of the necessary pabulum, or by arresting their multiplication or vital activity without necessarily destroying them.

A germicide is an agent that kills the organisms and is fatal to the life and existence of them. It destroys their vitality. The only true test of a germicide is its power to prevent the reproductive activity or multiplication of germs when transferred to suitable culture fluid under favorable conditions. Germicides are antiseptics, but an antiseptic is not necessarily a germicide. Disinfectants destroy or mask foul odors, and all disinfectants of established value are potent germicides. Therefore germicide and disinfectant are, to a certain extent, synonymous terms.

All experimenters agree in placing bichloride of mercury in the front rank as a germicide and antiseptic agent. Next to this Koch places bromine, iodine and chlorine. Carbolic acid, the most common antiseptic agent, is by no means as reliable as is usually supposed. Then come permanganate of potash and osmic acid. Chloride of zinc is very much overrated, and sulphurous acid is unreliable. Alcohol ranks low as a germicide, but is not without value as an antiseptic. Sulphate of iron has decided antiseptic qualities, but its use as a germicide would be a serious error. Sulphate of copper has the highest preventive power of the metallic salts. Iodoform had quite a rage, but has now gone somewhat out of fashion. The list is too long. I must drop it here and refer you for further details and information to special treatises. Thus far no antiseptic or germicide has been discovered which can be administered in sufficient strength to harm the germs or their more resistant spores without injuring the human system.

In conclusion, I must now briefly review the work of various investigators, who have labored most successfully to isolate certain specific parasites in certain diseases. The list of parasitic diseases is too long for me to do more than select a few from the number and classify the pathogenic micro-organisms connected therewith, giving the name also of the experimenter.

As an introduction to this most interesting topic, I would state that it requires but very few micro-organisms to cause disease—sometimes a single germ being sufficient, for such is their reproductive activity that a single germ multiplying by binary fission, under favorable conditions, would fill the ocean in five days.

While it is acknowledged that fermentation and putrefaction are due to the life-work of micro-organisms, it is also admitted that the relation of micro-organisms to the infectious diseases is very intimate, and is definitely proven to exist as regards some of the infectious maladies. In no instance, however, can it be said to have been satisfactorily proved that a particular infectious disease is due to a particular micro-organism, if any one of the following conditions remained unfulfilled, as pointed out by Koch :

1. It is absolutely necessary that the micro-organism in question is present, either in the blood or diseased tissues of man or of an animal suffering or dead from the disease.

2. It is necessary to take these micro-organisms from their nidus, from the blood or tissues, as the case may be, to cultivate them artificially in suitable media, i. e., outside the animal body, but by such methods as to exclude the accidental introduction into these media of other micro-organisms ; to go on cultivating them from one cultivation to another for several successive generations, in order to obtain them free of every kind of matter derived from the animal body from which they have been taken in the first instance.

3. After having thus cultivated the micro-organisms for several successive generations, it is necessary to reintroduce them into the body of a healthy animal susceptible to the disease, and in this way to show that this animal becomes affected with the same disease as the one from which the organisms were originally derived.

4. Finally, it is necessary that in this so affected new animal the same micro-organisms should again be found.

A particular micro-organism may probably be the cause of a particular disease, maybe constantly associated with it and none other. Take trichinosis, for example. No one doubts that trichina stands in causal relation to this disease, yet no one has ever induced the disease by the introduction of the isolated worms. By analogy, if this is true of trichina spiralis, why is it not true of other micro-organisms, which, like trichina spiralis, can only claim constant association with a particular condition and absence in all others? Deductions, however, are not demonstrations, and that a particular micro-organism is really and unmistakably the cause of a particular disease can only be inferred with certainty, when every one of the above desiderata has been fully satisfied—when, as it were, a bacteria, well washed of all ambient organic living matter, has been isolated on the point of a needle and then introduced into a sterilized nutrient solution, cultivated for several successive generations, and then carefully inoculated with consequent results, which cannot be misinterpreted. Science is exact truth.

Anthrax.—Anthrax, also called splenic fever, charbon, or, in the localized form usually seen in man—malignant pustule, woolsorters disease and milzbrand by the Germans, is the first and best known instance of a disease definitely traced to the invasion of the body by a vegetable parasite, bacillus anthracis. Koch has induced the disease by the 115 successive culture upon solids. About this all controversy has ceased.

Pollender, Branell, Davaine and Bollinger recognized in the blood of animals, dead of anthrax, stiff, short and long rods, which Davaine called "Bacteridie du Charbon." They were identified by Cohn as bacilli, in morphological respects similar to bacillus subtilis, except that the bacilli anthracis are non-motile. Koch's absolute proof has been verified by Pasteur and many others.

Symptomatic Anthrax.—Symptomatic anthrax, also called emphysema infectiosum, quarter, evil and black leg, according to Arloing, Cornevin and Thomas, is characterized by the presence of a microbe, which has distinct morphological characters, and which differs essentially from the bacillus anthracis,. It is shorter and broader than the bacillus anthracis, is rounded at the extremities, is extremely mobile and is nearly always provided at one extremity with a refractive spore. Sometimes the rod is very long and has a spore at each extremity. Inoculations with the bacilli into the subcutaneous tissue of guinea-pigs, rabbits, sheep and calves always prove fatal, the same subcutaneous hemorrhagic effusions, characteristic of the disease, being produced.

Cerebro-Spinal Meningitis.—Leyden reports the finding of oval micrococci in great numbers, occurring both singly and in chains, in recent lymph, obtained by hypodermic syringe from beneath the pia mater of the spinal cord in a sporadic case of this disease. I can find no evidence of inoculation experiments being performed, and hence their presence is merely suggestive.

Cholera.—Epidemiologists explain the origin and extension of this disease by the existence of a germ, and the facts would seem to so indicate. To study this disease bacteriologically there are many difficulties to contend with. The human intestines are a hot-bed of micro-organisms and a multitude of harmless germs are constantly present in the discharges from the bowels of healthy persons and cholera patients as well. Besides, it is claimed that no one of the lower animals has yet been proved to be susceptible to the disease, which fact deprives us of the method of inoculation with pure cultures—the only true standard of cause and effect. The French, English and German governments sent commissioners to study this disease in Egypt and India. In 1883 Dr. Koch, in his sixth cholera report, states that the bacilli which in their earlier reports the commission were unable to determine as strictly limited to cholera, were now accepted by them as holding a specific relationship. Their distinguishing characteristics are, briefly: "They are not quite straight, as are the other forms of bacilli, but slightly curved, comma-like; this bending may be so marked as to be almost semicircular. From these curved stems, *s*-shaped figures, more or less elongated, slightly undulating, linear forms may be developed in pure cultivations, of which the first two segments and the last correspond to the form of the bacilli as found in cholera, and which, continually increasing in number remain attached to one another." Thus they closely resemble a spirillum. They have very active voluntary movements. They are found in every genuine case of cholera, whether in Egypt, India, Italy, France or Spain, and there is no positive, conclusive demonstrations of their presence in any other condition or disease. They were observed in all the intestinal discharges and in the contents of the intestinal canal of cholera patients at post-mortem examinations and only in one instance in the various specimens of dirty water examined. Dr. Koch found them in the water of a tank that had produced cholera in several people who had partaken of it, and noticed that as soon as the bacilli disappeared from this water the cholera cases ceased. Dr. Koch, in discussing the relationship of these growths, states that the development of the supposed specific bacteria can only be favored by the cholera process, or that the bacillus is the cause of the disease, and that the disease is only induced when it has found its way into the intestine of man. If the first supposition is allowed, these bacilli are always present in health, which is stated as not the fact. Therefore he concludes that the growth of the bacteria cannot be due to the cholera process, and there is nothing left but the inference that it is itself the cause of the disease. Many other circumstances are emphasized as pointing to the same conclusion. They are limited to the organ which is the seat of the disease. They invade its tissues, which become markedly metamorphosed. In the earlier dejections of a cholera patient, so long as they are still feculent, the bacilli are few, but the subsequent watery, nearly odorless, characteristic dejections contain the bacilli in immense numbers, and coincidently all other bacteria disappear almost completely, so that in this stage of the disease an almost pure cultivation of the bacilli is obtained. Conversely, the comma-like bacilli decrease and disappear completely during convalescence. This general relationship also holds good as observed from post-mortem examinations. The great majority of observers in India and elsewhere give it as their unqualified opinion that cholera is infectious and may be transmitted, not only from individual to individual, but in a variety of ways to great distances. It is also well to remember that the bacteria of decomposition destroy the germs of cholera. Drs. Klein and Gibbes, of the English Cholera Commission, have identified the comma bacillus of Koch, which is a pathological feature of cholera cases. They have been unable to find that the microphyte is possessed of any pathogenic properties. In their preliminary report from Bombay and Calcutta the principal and most important points stated are :

1. That comma bacilli are not characteristic of cholera, since they are present in epidemic diarrhœa, dysentery and in intestinal catarrh, associated with phthisis.

2. That they have discovered a peculiar minute straight bacillus, which is of more constant occurrence in choleraic discharges than the comma variety.

3. That both of these micro-organisms behave precisely like other putrefactive organisms when cultivated artificially.

4. That no bacteria of any kind and no organisms of known form and character occur in the blood or any other tissue.

5. That finally all attempts made by the investigators to induce cholera in animals by either feeding or inoculation with these germs, have signally failed. Drs. Klein and Gibbes therefore contend that Koch's comma bacillus is neither the specific organism of Asiatic cholera, nor is it practically of any diagnostic importance. This is the severest blow the cholera comma bacillus has ever received. It remains to be seen, however, whether they have proved by cultures the morphological and physiological identity of dysenteric and other bacilli with those of cholera. A single positive inoculation experiment is far more valuable than all the negative evidence. It must also be proved by Klein and Gibbes that the inoculations of pure cultures by Koch and by Nicati and Rietsch did not, as claimed, produce genuine cholera. In a supplementary report later on Dr. Klein refers to the tank water, which was collected in a limited cholera district in Calcutta. This is the same tank in which Koch found the comma bacilli, and on the presence of which in the water he largely based his theory. Dr. Klein admits the undoubted finding of the bacilli in the tank, but adds: "There has occurred during the whole of November, 1884, one single case of cholera, although about two hundred families use the water." Next comes the report that while Dr. E. Van Ermengen claims to have successfully inoculated dogs, rabbits and guinea pigs with the cultivated comma bacilli. Dr. Klein has had a bacterial dinner—swallowing liberal doses of comma bacilli in pure culture, and Dr. Bochefontaine, chief of Vulpian's laboratory, has himself taken a drachm of the intestinal discharge from a cholera patient in the form of pills—both of these gentlemen being unaffected thereby. Dr. Koch replies that all of the gentlemen, especially Lewis and Finkler and Prior, previous to this last cholera commission, who have questioned his results, have not shown sufficient care in the conduct of their own experiments. He sees no reason as yet to lose faith in the importance of his discovery, but on the contrary claims to have repeated with success in his own laboratory the Nicati and Rietsch experiments in regard to the artificial production of cholera in the lower animals. However, the *British Medical Journal* of January 31st, in giving a resume of Dr. Klein's report from India on the cholera bacillus states that Dr. Koch appears to recognize that he has not established the fact that the comma bacillus is the cause of cholera, and that he proposes to return to India to make further investigations at the earliest date that his duties in Berlin will permit.

Opposed to this conclusion, however, is the result of a recent debate at the Royal Medical and Chirurgical Society of London between Drs. Klein and Gibbes opposing, and Dr. Watson Cheyne especially advocating the specific characters of Koch's comma bacilli of cholera. To record it briefly and pointedly it must be admitted that Koch's doctrine of their causative relations was not at all shaken. Thus this all-important and all-absorbing matter for bacteriologists to decide rests. We must either await further developments, or, in the midst of these conflicting opinions, decide the matter for ourselves according to our best judgment. An address delivered a few days ago in New Orleans before the American Medical Association by Dr. Henry D. Didama, of New York, relieves us, however, of this embarrassment. From it we gather that Dr. Klein at last admits that Koch's comma bacillus is indirectly the cause of cholera, and as *qui facit per alium facit per se*, the formula is justified: No comma bacillus, no cholera. Such must be the conclusion after such a checkered experience, like that of its brother, the bacillus tuberculosis.

Cholera of Fowls.—Pasteur has furnished satisfactory experimental evidence that this infectious disease of the domestic fowl is due to a micro-coccus.

Diphtheria.—In the pseudo-membranes of this disease micro-organisms, especially micro-cocci, occur in great numbers. The micro-coccus diphtheriticus is the most constant, and was discovered by Buhl, Hueter and Oertel. Oertel was the first to describe them, and they have since been demonstrated by Von Rechlinghausen, Wassiloff, Waldeyer, Klebs, Eberth, Heiberg and others, in the most different organs and tissues. Drs. Wood and Formad have given them a very full description. Oertel and Eberth are very sure of their causal relations. Klebs claims to have produced diphtheria in animals by the inoculation of pure cultures. Drs. Wood and Formad inoculated pure cultures in a number of instances, resulting in the death of the animal, micro-cocci being abundant in all cases, thus giving support to the view that they are the infectious agents. Dr. H. O. Marcy also claims specific properties for them. There is some doubt thrown upon the accuracy of these experiments and the deductions therefrom. The results are not universally accepted, owing especially to a lack of precaution to prevent contamination of the cultures. On the contrary, Ewart claims a bacillus and Letzerich a fungus as the infectious agent.

Finally, organisms morphologically similar, at least so far as the micro-cocci are concerned, being found in the mouth and fauces of healthy individuals and of patients suffering from other diseases in which the throat is involved, such as scarlet fever, etc., causes great opposition to the acceptance of the causal relation of the micro-coccus diphtheriticus. We must, however, remember that morphological similarity does not necessarily mean physiological identity.

Erysipelas.—Fehleisen has proven by cultivation and inoculation experiments upon men and animals that this disease is due to the micro-coccus erysipelatosus.

Milk Fever Epidemic of Aberdeen.—This disease is supposed by Dr. Ewart to be due to a bacillus resembling the anthrax bacillus. The evidence, though not conclusive, is strongly supportive of his view.

Salmon Disease, etc.—Prof. Huxley's salmon disease, or saprolegnia, and Dr. Ogles' disease among the perch of Lake Geneva are due to bacteria.

Glanders.—Schutz, Loeffler, Israel and Bouchardt have found in glanders a bacillus, cultivated it and by inoculation reproduced the disease. The bacillus resembles the bacillus tuberculosis in shape and size, but is readily stained by methyl-blue. It is found in the tubercles, which are characteristic of the disease.

Gonorrhœa.—In the pus from gonorrhœa Neisser detected a micro-coccus, which he called gono-coccus and for which he claimed specific characters and properties. Inoculations performed by him were not successful. Unfortunately for science, but not for animals, the lower animals are not susceptible to the contagion, even from inoculations of the most virulent pus. With that self-sacrifice, however, always characteristic of the medical student, in order that science might not suffer from lack of experimental material, six medical students were inoculated with the cultivated cocci by Bokair in Pesth and three were successfully infected. Some are ungenerous enough to suspect that the disease in these three might have been contracted in the usual way, as it was neglected to keep them in solitary confinement during the trial. Bockhart has also inoculated with a fourth culture a paralytic, producing a typical gonorrhœa. Dr. Sternberg claims the culture was not carried on to a sufficient degree, has gotten only negative results from his pure culture inoculations, and states that Neisser's gono-coccus is widely distributed, and is, in fact, the same as that which Pasteur has shown to cause the fermentation of urea. Thus far, therefore, it is not decisively established that this associated micro-organism is the veritable cause of the disease.

Hydrophobia.—Pasteur claims that the virus of this disease is associated in the saliva of rabid animals with various microbes. The specific organism, if any exists, has not yet been isolated.

Malaria.—Klebs and Tommasi Crudeli have discovered a bacillus which they call the bacillus malariæ, in the soil of the Roman campagna. Marchiafava and Cuboni find them in the blood of patients suffering from malaria. Inoculations of rabbits with the cultivated or original bacilli produced a febrile disorder, which Klebs and Tommasi Crudeli consider analogous to the human intermittent fever. Whether so or not we cannot say, as we do not know what form malaria assumes in the rabbit. The experiments of Sternberg, made with bacilli material derived from soil from malarious American districts, do not support the view of Klebs and Tommasi Crudeli. The febrile disorder observed by him had nothing of the character of human intermittent fever, and besides could be produced by other bacilli than those of malarious soil. Therefore the experimental supports of the bacillus malariæ are as yet insufficient and not convincing, though quite probable. Laverau and Richard have described as the cause of malaria the oscalaria malariæ, of the same nature as the pigmented bodies, heretofore described as melanotic leucocytes. As yet there is nothing definite about this discovery.

Leprosy.—Hansen has described a bacillus lepræ associated with the leprous tubercles or nodules, not unlike the bacillus tuberculosis. Neisser confirmed Hansen's demonstrations. The bacilli have been successfully cultivated, but the inoculation experiments have given only negative results.

Koch's Malignant Œdema.—This affection (also called Pasteur's septicæmia) is due to a bacillus, of which an artificial culture has reproduced the disease. Charbon symptomatique, or rauschbrand of cattle, is believed by some to be the same disease. Brieger and Ehrlich have observed the disease in man from the subcutaneous injections of tincture of musk, contaminated with these bacilli.

Milk Sickness.—This is an infectious disease, which prevails in certain rural districts in the United States. The experimental method has not yet proven its parasitic nature, though Dr. Phillips has detected a micro-zyme (spirillum) in the blood.

Measles.—Le Bel has discovered a vibrio in the urine and furfuraceous scales of the skin of measles patients, which he never met with in other diseases. Coze and Feltz, Klebs, Braidwood and Vacher find other organisms. Keating, confirmed by Formad, has recently reported the finding of micro-cocci in the blood of malignant measles and their absence in cases of mild type. In all cases the same micro-organism was found in the cutaneous lesions. I can find no evidence of successful inoculation experiments, and therefore we must place these organisms in the role of mere association at present.

Pleuro-Pneumonia.—Bruylants and Verriers claim the cultivation of the micro-coccus of this disease, and Pœls and Nolen the production of the disease by artificial cultures of the micro-cocci derived from either human pneumonia or pleuro-pneumonia of cattle, which to them seemed morphologically identical. Protective inoculations are successfully practised in this disease.

Pneumonia.—Klebs, Eberth, Koch, Leyden and others, have found in acute crupous pneumonia in the affected lungs large numbers of micro-cocci, but Friedlander was the first to point out their constant occurrence, and called them pneumo-cocci. Friedlander and Frobenius have cultivated them, and claim to have sometimes obtained positive results and sometimes failed. Their positive results are not generally accepted, as some seem to think they have mistaken septicæmia for pneumonia. We must therefore for the present consider the pneumo-coccus as sub-judice.

(Concluded in next Number of JOURNAL.)

AN ANALYSIS OF YAUPON LEAVES.

By Frank W. Venable, Professor of Chemistry University of N. C

NCMed J. (OS) 16: 89-90, #2, Aug. 1885.

The Yaupon (Ilex Cassine Linn) is described by Dr. Curtis as an elegant shrub 10 to 15 feet high, but sometimes rising into a small tree of 20 to 25 feet. It has, according to the same authority, for its habitat the strip of country from Virginia southward along the coast, never extending, however, very far into the interior. The leaves are ½ to 1 inch long, with a smooth surface and fine serrated edge. The plant is an evergreen, and its dark green leaves and bright red berries make it attractive as an ornamental shrub. In the region of the Dismal Swamp and in other sections the leaves are annually gathered, dried and used for tea. This decoction is, according to Curtis, oppressively sudorific, at least to those unaccustomed to its use. The famous Black Drink of the Southern Indians was made from the leaves of this shrub.

"At a certain time of the year they come down in droves from a distance of some hundred miles to the coast for the leaves of this tree. They make a fire on the ground, and, putting a great kettle of water on it, they throw in a large quantity of these leaves, and, setting themselves around the fire, from a bowl that holds about a pint they begin drinking large draughts, which in a short time occasions them to vomit freely and easily. Thus they continue for a space of two or three days, until they have sufficiently cleansed themselves, and then everyone taking a bundle of the leaves, they all retire to their habitations."

Having on hand a small sample of these leaves procured from New Berne during the winter of 1883, it seemed desirable to make an examination of them to decide, if possible, the presence of any alkaloid or other principle which would make the decoction useful as a beverage. The usual treatment with magnesia oxide, exhaustion with water, separation by means of chloroform and subsequent purification, was adhered to, resulting in obtaining a small amount of a white substance slightly soluble in water, more so in alcohol, and easily soluble in chloroform, which gave distinctly the tests for caffeine, especially the unmixed reaction, and very closely resembled a specimen of pure caffeine from Powers & Weightman. This caffeine formed 32 per cent. of the dried leaves.

Later on in May a much larger supply of the same leaves was gotten from the neighborhood of Wilmington. A more thorough examination of them was then made made with the following result:

Water in air-dried leaves,	13.19
Aqueous extract,	26.55
Tannin,	7.39
Caffeine,	.27
Nitrogen (by combustion),	.73
Ash,	5.75

The analysis of the ash is shown in column (I) below

	I.	II.
$Ca O$	10.99	12.34
$Mg O$	16.59	11.39
Na_2O	.47	7.28
K_2O	27.02	2.98
$Mn O_2$	1.73	2.50
Fe_3O_2	.26	3.41
So_3	2.50	.92
Cl	.66	.71
P_2O_5	3.34	5.54
$Si O_2$	1.32	44.75

The Maté or Brazilian Holly (Ilex Paraguayensis) belongs to the same genus. Its ash analysis, as made by Sénor Arate, is given in column (II). The plant grows wild in Brazil, and is very largely used by the South Americans. It has, according to Peckott (Pharm. J. Trans. [8] 14, 121–124. Abstract in London Chem. Soc., J. 1884, 479), been planted, and seems to succeed well in the Cape of Good Hope, Spain and Portugal.

It is stated that six different species of Ilex are used in the preparation of this tea.

Peckott gives in his analysis of the air-dried leaves the percentage of caffeine as .639. The average percentage by different authors is 1.3.

I can find mention of only one other Ilex used as a substitute for tea. The analysis of this by Ryland & Brown is quoted in Blyth's "Composition and Analysis of Foods," p. 843. It is called the Ilex Cassiva, is said to be used as a tea in Virginia, and the percentage of caffeine is given as .12. This is probably the same thing as the Yaupon, the analysis of which is given above.

TYROTOXICON—CHEESE-POISON.

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Abstract of a Paper by Prof. V. C. Vaughan, M.D., Ph.D., at the meeting of the Michigan State Board of Health, July 14, 1885.

Dr. Vaughan presented a report of his investigations on poisonous cheese. It is well known that cases of severe illness following the eating of some cheese. Such instances are of frequent occurrence in the North German countries and in the United States. In England they are less frequently observed, while in France, where much cheese is made and eaten, these cases are said to occur very rarely. A few years ago the reputation of a large cheese factory in Northern Ohio was destroyed by the great number of cases of alarming illness arising from eating its cheese. Dairymen know this cheese as "sick" cheese.

KINDS OF CHFESE THAT ARE POISONOUS.

A German author says: "The numerous kinds of soft cheese, prepared in small families, or on small farms, are generally the cause of the symptoms, while it is quite exceptional to hear of symptoms arising from the use of cheese prepared in large quantities."

Some two years ago a family in Alpena, Michigan, was poisoned by eating of cottage cheese; but the cheese which poisoned so many in this State last year was made at one of the largest factories in the State, and by a thoroughly experienced cheese-maker. The old foul-smelling cheese, such as Limburger and Schweitzer, have never been known to be poisonous.

EFFECTS OF THE CHEESE.

The symptoms produced by "sick" cheese, as reported by German and American physicians, agree quite closely and are as follows: Dryness of the mouth and throat, with a sense of constriction, nausea, vomiting, diarrhœa, headache, sometimes double vision, and marked nervous prostration. In rare instances the sufferer dies from collapse. As a rule recovery occurs in a few hours, or at most after a few days. The symptoms of cheese-poisoning and those of sausage, canned meats and fish-poisoning, are very similar. Though death results more frequently from the others mentioned than from cheese-poisoning,

APPEARANCE OF THE CHEESE.

The samples of cheese examined had no peculiarities of appearance, odor or taste, by which it could be distinguished from good cheese. It is true, that if two pieces of cheese—one poisonous and the other wholesome—were offered to a dog or a cat, the animal would select the good cheese. But this was probably due to an acuteness of the sense of smell possessed by the animal and not belonging to man. Indeed, if a person tasted a cheese knowing that it was poisonous, he might detect a sharpness of taste which would not ordinarily be noticed.

HAVE WE ANY READY MEANS OF RECOGNIZING POISONOUS CHEESE?

There is no certain means aside from a chemical examination by which a poisonous cheese can be distinguished from a wholesome one. The most reliable ready method is probably that proposed by Dr. Vaughan a year ago, and it is as follows: Press a small strip of blue litmus paper (which can be obtained at any drug store) against a freshly cut surface of the cheese; if the paper is reddened instantly and intensely, the cheese may be regarded with suspicion. When treated in this way any green cheese will redden the litmus paper, but ordinarily the reddening will be produced slowly and will be slight. If the piece of cheese be dry, a small bit should be rubbed up with an equal volume of water, and the paper should then be dipped in the water.

Dr. Vaughan does not regard the above test as free from error, but as the most reliable ready means now known. Every groceryman should apply this test to each fresh cheese which he cuts. The depth of the reddening of the paper may be compared with that produced by cheese which is known to be wholesome.

EFFECTS ON THE LOWER ANIMALS.

Dogs and cats, at least, are not affected by eating poisoned cheese. This is probably due to the fact that they do not get enough of the poison from the amount of cheese which they eat. The pure isolated poison in sufficient doses would undoubtedly produce upon the lower animals effects similar to those produced on man.

NATURE OF THE POISON.

Dr. Vaughan has succeeded in isolating the poison, to which he has given the name Tyrocoxicon (from two Greek words which mean cheese and poison). It is a product of slight putrefaction in the cheese which probably occurs in the vat, as the curd has been known to poison a person. By this slight putrefaction, or excessive fermentation, as it may be called, a large amount of butyric acid is formed, and this in the presence of the casein of the cheese, is capable of developing a poison. Different samples of poisonous cheese contain different amounts of the poison. The same weight of cheese from one cake furnished three times as much poison as that from another cake. The poison was obtained in long needle-shaped crystals, which are freely soluble in water, chloroform, alcohol and ether. The smallest visible fragment of a crystal placed upon the end of the tongue causes a sharp, stinging pain at the point of application, and in a few minutes dryness and constriction of the throat. A slightly larger amount produced nausea, vomiting and diarrhœa. The poison is volatile at the temperature of boiling water, and for this reason even poisonous cheese may be eaten with impunisy after being cooked. The substance has also a marked, pungent odor, and through the nose one can obtain sufficient of the volatile poison to produce dryness of the throat. This is true, however, only of the isolated poison. In the cheese the taste and odor of the poison are both modified to such an extent that they would not be recognized, as has already been stated.

The first step in the study of cheese-poisoning has now been taken, by finding out what the poison is. Efforts will be made to ascertain the means for preventing its formation.

EXENTERATION OF THE EYE—A SUBSTITUTE FOR ENUCLEATION.

By Middleton Michel, M.D., of Charleston, S. C.

The memoranda of a case of shot-wound of the eye recently under my care, furnish on this occasion some reflections on a method of operation that promises perhaps better results in the future, than the more destructive procedure of enucleation always resorted to at present as the surest means of preventing sympathetic ophthalmia-

The introduction of enucleation into ophthalmic surgery secured, it is true, a very certain arrest of all irritative and destructive sympathetic radiation that otherwise sooner or later inevitably compromise the sound eye; but it has also served to impress us with certain dangers of possible recurrence with which we are familiar, who have often practised this operation. Indeed, extension of inflammatory action to the meninges, and even death, that have sometimes taken place consequent upon this operation, explain the anxious solicitude and brilliant anticipations expressed on every hand when first we heard of optico-ciliary neurotomy as a substitute for enucleation; and the regret subsequently experienced when even this method failed to realize all that was promised in its behalf. Not that we mean to imply that enucleation must not, indeed, be always performed in malignant disease, but simply that for the single object of cutting off sympathetic communication with the sound eye when the lost one becomes the source of irritation, some less disfiguring yet equally effective operation might be devised.

It is only within a few months that an attempt has been made to destroy all neural connection with the sound eye by removal of the injured organ without opening the capsule of Tenon; without involvement of the orbital cellular tissue, yet still retaining the sclera with its several muscles as a movable stump for subsequent support of an artificial eye.

Such an operation within the few past months has been executed in Hall, and in England, and by myself a few weeks since.

While it may be predicated of this new operation that it is wholly exempt of danger to life, still the few cases recorded so far are only presumptive evidence that it is destined to fulfil all the requirements and indications of a successful operative procedure. The complete destruction of the peripheral relations of long or short ciliaries and optic nerves; the obliteration of bulb by removal of its contents; the uninjured capsules of Tenon and Bonnet; the non-invasion of subconjunctival tissue; in other words, an untouched orbital cavity, yet an eye thoroughly removed, are the salient conditions of a procedure that seems to foreshadow the speediest cure and surest results.

This simple method consists in opening the eye just beyond the sclero-corneal border, as in the operation foı staphyloma, finishing the abscission of the anterior segment of the bulb with scissors, then with scoop or curette, introduced between choroid and sclera, enucleating the contents of the globe, eviscerating the organ so as to destroy completely all ciliary and optic connection with the sclerotic, arresting hemorrhage and cleansing the sense-capsule with cotton compresses dipped in a weak solution of corrosive sublimate then suturing the scleral cup with two or three catgut ligatures, all of which is conducted under a continued antiseptic spray of corrosive sublimate.

So far as the encheiresis involved in this method of operation is concerned, contrasted with enucleation or optico-ciliary neurotomy, the preference, even in the hands of an expert, would seem to be in favor of exenteration or evisceration; but it remains to be ascertained whether the healing process will always be rapid and unattended with any complications. I have had but a single opportunity of testing the results of exenteration which occurred recently, and I will now relate the case:

Isaac S., white, aged 20 years, native of Hamburg, residing in Summerville, S. C., came to me April 3, 1885. Shot in the right eye by a robber who waylaid him in Summerville on the night of the 2d April, the eye became immediately swollen and dreadfully painful. The next morning, the pain being still more severe, and discovering that sight was gone, that not even perception of light remained, he was brought to the city, and being a Jew, he applied as a stranger to the Hebrew Benevolent Society for instruction, and he was sent to me by letter from the President, Mr. M. Triest. He was taken to a private boarding-house, and every arrangement made to operate upon him the next day, as he was informed that his eye was lost and would have to be removed lest it should induce sympathetic irritation in the other eye.

Present Condition.—Right eye and eyelids very much inflamed, painful, swollen ecchymosed; eye black and blue, the effusion of blood extended to the cellular tissue of the face around the orbit. No fracture of bones about the orbit, no emphysema, no wound of the integument about the face or eyelids. A penetrating wound of the cornea, through which a bead of aqueous appeared as often as it was wiped away, was already surrounded by a zone of effused lymph, and occupied the ciliary border. Through the nebulous cornea the pupil irregularly dilated could just be discerned. In the lower and outer half of anterior chamber a white deposit was seen, to which the iris was attached, resembling a hypopyon of some duration. The aqueous was sufficiently clear to permit a view of the iris and pupil, but from the fundus we obtained no reflex, for the vitreous seemed the seat of intraocular hemorrhage, and T. was + 1, which obscured the fundus and interdicted the discovery of any foreign body like a shot. Steady increase of pain and inflammation since Wednesday, the day of the accident; position of the corneal wound near ciliary zone; accompanying chemosis of both lids and ocular conjunctiva; and the loss of nearly all light perception proved that the eye was irrevocably lost, either from penetration of a spent shot lodged in some part of the organ, or from laceration of cornea from the same source, consorted with concussion. There were already synechia and atresia of pupil that threatened painful iritic and cyclitic complications at no very distant period, conducting inevitably under these circumstances to monocular destruction and most probably to sympathetic ophthalmia. For these reasons, to save the sound eye and abridge the duration of cure, and his detention in the city, we advised immediate surgical interference, which he requested me at once to undertake.

Exenteration was performed the next morning, April 4th. Desirous of testing the efficacy of hydrochlorate of cocaine in an operation of this character, as I had obtained most satisfactory results from its employment in minor operations, instillations of a few drops of a solution of one grain to the drachm, were made to the whole surface of the eye at intervals of three minutes or more for over twenty minutes, until local anæsthesia seemed fully induced. The pressure of the speculum upon the œdematous and chemotic lids was, however, not unattended with inconvenience; and after the first steps of the operation through superficial parts were seemingly unfelt, such undisguised pain ensued as we progressed, that we had to suspend the operation and resort to ether to secure the best results for this new procedure. Under a continuous spray of corrosive sublimate solution 1 to 4000, with fixation forceps, keratome and scissors, abscission of the front of the eye was readily accomplished, when, with a vulcanite scoop, passed by a to-and-fro movement between the choroid and sclerotic to the fundus evisceration followed, aided by curette and scissors, not without some difficulty, especially in detaching the retina from the canalis opticus.

The vitreous was discolored by extravasated blood, and more hemorrhage occurred from the fundus than I had expected. In the hemorrhagic contents removed, I sought in vain for any trace of shot, which shows how difficult, even impossible, it often is to say whether the foreign body has penetrated the eye. After cleansing the sclerotic cup this was closed by three sutures, and formed an excellent stump. With the exception of soreness, by the next day all circum-orbital pain subsided, and, although a very considerable chemosis subsequently occurred, protruding the tarsal cartilages and everting both lids, this condition was relieved by free scarification. Cooling applications of lead lotion were substituted now for Warlemont's wash, which had been applied previously to allay the ciliary neurosis and orbital pains with which he had previously suffered.

In staphylomatous eyes recovery from enucleation is more rapid than from abscission, for in the latter case we leave a scleral cup containing such elements (as choroid, retina and vitreous) that undergo retrogressive changes, sometimes of a destructive nature, even should no suppuration occur ; but after exenteration the empty sense-capsule, with no structural element likely to take on inflammation, is supposed to heal with rapidity, as cures are said to occur in two days. I was disappointed to find in my case that this was delayed for two weeks, with no elevation of temperature or pain, but with some secretion of a muco-purulent discharge, though very slight. I am disposed to refer this delay to damage done by the accident and to the extraordinary chemosis that occurred in consequence of the deferred operation. It is possible that had exenteration been immediately performed convalescence would have ensued in two or three days, for, after scarifying the conjunctiva, the subsidence and deferescence that followed showed the cicatrix of a wound, that, from its firm and insensitive nature, must have been for sometime healed.

The superiority of this new operation for cosmetic purposes is apparent in the symmetry of a prominent and rounded stump, moved by each and every one of its muscles in harmony with the other eye, furnishing a solid support for the glass eye.

Enucleation, on the contrary, entails a permanent deformity upon the sufferer, since the empty orbit offers no longer any support to the eyelids, which, falling in, are no longer able to conduct the tears to the puncta, this secretion becoming a source of constant irritation unless the lachrymal gland be also excised.

Again, an irremediable symblepharon often results from cicatricial contractions that interdicts the possible introduction or retention of an artificial eye, a condition that has too often embarrassed our efforts to give this a proper support.

Among the greatest advantages of the new operation, however, is the pleasing assurance that not having opened any of the intravaginal lymph spaces of the orbit, no traumatic pathway obtains for the conduction of morbid products to the meninges or to the brain.

Since the writing out of this case, enabled as I have unexpectedly been to perform another exenteration and this before the members of this Association in session, I shall here detail the additional operation which they witnessed and its results, as constituting, so to speak, a part of our proceedings :

Charlotte C., negro, of about 50 years, domestic, native of this city, living in Henrietta street, was sent to me April 22, 1885, with a disorganized globe, from a blow of splintered wood. She was cutting wood with an axe, when a splintered fragment flew up, striking her in the right eye. This occurred three weeks ago. On receipt of the injury the sight was immediately lost, and since its occurrence she has had no rest, no ease from the constant pain in orbit and around the eye, even along the region of the temple. Her sufferings have not diminished, but are increased when she is in the recumbent position. The other eye is now so "weak" that she cannot look at an object without its "watering" so much that her sight is obscured. She thinks the "sight must be gone in the injured eye, as she cannot see with this eye, not even light." She says "her good doctor has been doing everything for her ; putting drops into her eye, but they have done her no good," and she wants me "to take out the eye," which she knows "will ease her, just as if you took a rotten tooth out of her head." This we promised to do to-morrow.

Present Condition.—Phthisis bulbi of right eye. Cornea exhibits a deep leucoma occupying its lower half, iris attached, pupil nearly obliterated and discolored; sclerotic intensely congested; globe prominent and tense, painful on pressure, V = o; circumocular chemosis; epiphora; orbital and temporal neuralgia.

Operation was performed April 23d, before members of the Association, at 12 o'clock. Exenteration was again followed by considerable bleeding, as in my previous case, controlled by lint and ice. Chloroform was administered, sclera sutured, and cold compresses applied. Globe was found disorganized by lymph deposits, and iris adherent to cornea in part.

April 24.—Pain has greatly disappeared, though still sufficient to disturb her rest. No appetite, temperature normal, no discharges on dressing; cold compresses to be continued.

25th.—Condition the same. Œdema about upper lid. Considerable serous chemosis. Scarified conjunctiva freely. Compresses dipped in Goulard's lotion and tr. opii continuously applied.

25th.—Œdema of upper lid considerable. Chemosis so great that it projects entirely out of orbit; scarified again.

28th.—No pain whatsoever, up and moving about. Scarifying has not notably subdued the swollen conjunctiva.

30th.—Lid less swollen. Chemosis slowly receding. Lotion continued.

May 7.—To-day two weeks chemosis considerable; no apparent inconvenience from exposure of protruded conjunctiva to dust and air.

13th.—Turgescence of mucus much decreased, though still sufficient to conceal the sutures, which, after search, were found firmly attached to a remarkably bulbous sclerotica, that had by no means collapsed; the plica semilunaris projects, discolored at inner canthus. On drawing upon these sutures a prominent and resistant bulb, T = 2, still readily determined by the touch, showing that, as yet, no shrinkage to any perceptible degree has occurred, though this is three weeks since the operation. Pressure on upper eyelid, when closed, discovers the globe very easily, as it moves in different directions drawn by the muscles. The sutures were removed to-day.

A feature of constant attendance upon these two operations was the remarkable chemosis ensuing within a few days, so considerable that the conjunctiva bulbi protruded entirely beyond the palpebral fissure, completely burying the lower lid, and concealing all trace of the sutured bulb. This condition, together with an extensive œdema of upper lid, gives an unusual aspect to these cases, unlike what is seen in any other operation upon the eye.

Unattended by any kind of discharge, pain or elevation of temperature, that would liken this appearance to an aggravated form of purulent ophthalmia in infants, I am disposed to regard the occurrence as peculiarly characteristic of the operation of exenteration; so much so that were I in presence of an œdematous upper lid, beneath which projected a conjunctival intumescence of considerable size, constricted, as it were strangled, at the palpebral fissure, without reactionary process and without discharge, I should feel no hesitancy in declaring that the eye had been eviscerated.

This repeated occurrence of so exaggerated a chemosis arrests attention, and is suggestive of a perfect explanation, even demonstrative of the whole subject of conjunctival connections and actions.

Chemosis is not always the declaration of hyperæmia. In the instances before us the chemosis is a serous, not a vascular, infiltration of the conjunctiva; consequently is void of inflammatory heat, of pain, or of the purulent or muco-purulent products of inflammation; it is a simple infiltration of serosity beneath the loose, serous, cellular tissue of the ocular conjunctiva, the aponeurotic arrangements of whose retrotarsal folds retain the hypersecretion within the anatomical limitations of this part of the orbit, free to move extraorbitally to an almost unlimited extent, but checked in any retrogressive tendency towards the orbital cavity by the firm orbital fascia in this region.

In such an unsightly turgescence there is, then, no indication of alarm, no threatening of danger.

But why should this excessive chemotic œdema occur after exenteration? is the question proposed by those who witnessed this phenomenon twice thus regularly produced—a phenomenon differing essentially from the partial and asymmetrical swelling of the conjunctiva from other surgical interferences upon the globe.

This question seems of interest sufficient to call for the reply that suggests itself at this juncture. When we recollect the importance of shape and dimensions to the eye as a dioptrical apparatus, where the slightest deviation, even of a fraction of a line, must of necessity vary its optical focus, one will fully appreciate the axomatic truth that *the eyeball never changes its form.* For the maintenance of this physiological condition a normal tension of the eyeball is recognized, and an equable pressure in its vicinage, and throughout the whole orbit is of paramount importance ; but, when this pressure is suddenly and greatly disturbed, indeed, wholly abolished by emptying completely the entire ball ; the great change that immediately ensues in the periocular circulation explains the passive effusion which commences at once, which, independent of all reactionary influences of an inflammatory nature, finds its readiest vent beneath the serous cellular tissue of the preorbital region. This sudden abolition of all ocular tension, the obvious result of gutting the eyeball, produces, mechanically, a greater filling of all the orbital vessels in vacuo ; and this leads, perhaps, to the chemosis that so rapidly ensues.

Whatever be the proper explanation of this occurrence, however, it certainly is the most remarkable feature as a sequel to this operation. Nor does it rapidly disappear, since in my first case it took two weeks to subside ; and in the second case, now under consideration, being the third week of the operation, it has by no means vanished. I do not, therefore, understand how cures have been reported to have occurred within two or three days.

Another point is the hemorrhage that persists for awhile after evisceration is completed ; welling up from the empty sclerotic to an extent far beyond what I could have supposed probable, from the severance of such inconspicuous vessels as the central artery of retina and ciliaries. Yet, here again we must find an explanation in the anatomical peculiarities of the part. These vessels, however small they be, perforate an inextensible fibrous capsule, and, while imprisoned within their fibrous attachments to the sclerotic, are held patent and unable to retract. Trifling as this circumstance may seem, when applied to such minute vessels, yet in other situations in the body we know it to be often of great import if not controlled by pressure, and even by the application of ice, to both of which we had recourse on these occasions, to avoid a loss of blood out of all proportion to the simple nature of the operation.

Again, another question connected with thi procedure is, What becomes ultimately of the emptied sclera? Will it really constitute the prominent and permanent support for prothesis, which is claimed for it? Or does it collapse, and,, through shrinkage, become atrophied? These are questions that remain to be determined in the future. So far as my personal experience extends, which is at present six weeks since operating upon Case 1, I have discovered that a globular mass remains, exhibiting a healthy non-vascular sclerotica of remarkable firmness, that rolls under pressure like the ball itself, turned by its muscles as each is called into action, strikingly resembling the bulb in all its entirety.

It is possible that the sclerotica, still nourished by its proper vessels, pours out exudates that subsequently become, through fibrillation, an organized body of fibrous structure, but little smaller than the normal globe, that long will exist as a firm, well-nourished stump, sustaining the lids in proper relation to the tear passages since we have ascertained that this secretion reaches the puncta safely, and that none overflows the cheek in the case referred to.

In the gunshot injury above detailed, as no shot was detected, we see that phthisis bulbi resulted from simply a glance shot that incised the cornea, and produced destruction of the eye by concussion, lodging neither within the organ itself nor within the orbit; but, falling short of this, should a shot become buried in the orbital cushion of fat, harm would not necessarily result. Inflammatory processes of the orbit are not of common occurrence. Sympathia never originates but from ciliary or optic sources. We see foreign bodies of extraordinary nature retained indefinitely in the vicinage of the bulbus oculi, encapsulated in the fat cushion, without giving pain to the subject, who remains even unconscious of their presence.

We could rehearse many instances of this kind, but will recall only two that are memorably known to all oculists:

The first is Clarke's case, recounted by Carter, of Stroud, in which piece of a hat-peg of cast-iron, "measuring three inches and three-tenths in length, and weighing twenty-five scruples," was extracted from the orbit of an old man of seventy-three years of age, after a period of impaction of not less than ten, and probably even twenty days—the man recovering without a bad symptom.

The second is the Nélaton and Desmarres's yet more famous case, in which the former surgeon removed from the orbit the broken-off ivory handle of an umbrella that had lain embedded therein for three years unknown to the young man himself, and to the celebrated oculist Desmarres, who failed to discover any foreign body at the time of the accident, though the ivory handle measured "one inch and five-eighths in length, and half of an inch in thickness." This patient also left the hospital with "vision improved, and with the fistula nearly healed."

A small shot that has impinged upon, or that has even traversed the eyeball, may therefore safely remain embedded in the deeper parts of the orbit with little trouble; but, should symptoms of *sympathia* arise, this circumstance would in nowise interdict the operation of exenteration.

These, then, are some points of interest suggested by this novel operation of exenteration or eviscerating the eye, that have induced me to bring before your notice a modified surgical procedure in ophthalmology but little known as yet even to specialists.—*Medical News.*

SYPHILIS OF THE LUNGS.

In the *New York Medical Journal* (August 1st, 1885) Dr. William H. Porter contributes a paper—"Phthisis and Pneumonia in their Relation to Syphilis." His observations are founded upon a study of one hundred cases in which these affections were associated, and we draw a resumé of them worthy of the careful attention of our readers.

He defines pulmonary syphilis as a condition of the lungs in which there is a progressive thickening of the walls of the vesicles; this change is often associated with inflammatory deposits, gummy formations, which, degenerated into cheesy masses, become encapsuled or liquefy, and give rise to cavities.

The first necropsy, in connection with a typical clinical history, was made in 1878, and in this instance there was no question of the existence of acquired syphilis, and the exemption from inherited phthisis was equally positive. Since that time a number of cases have been noted.

Of the one hundred patients chosen as the basis of Dr. Porter's paper fifty-two were males and forty-eight females, which he says does not represent the relative frequency among patients at large, for the whole number treated showed it to be more frequent among females:

"The rational signs in many respects resemble those of a tubercular phthisis. The patients complain of having had a heavy cold with incomplete recovery, followed by a dry, hacking cough, or one with an abundant muco-purulent expectoration. The sputum is either white and frothy or thick, purulent, and of a greenish or yellow tinge, as in a true pulmonary tuberculosis. Early hæmorrhages are frequent and often copious, while the dyspnœa is an early and pronounced symptom. Pleuritic pains are common, and there is often great weakness, while the general physique remains fairly good—in fact, the emaciation is not at all in proportion to the weakness, and is nothing like that of the tubercular variety. The skin is warm and moist, but there is little or no elevation of the bodily temperature. Night-sweats are frequent and distressing, and the patient complains of cephalalgia and of indefinite and wandering pains in the bones and tissues, which increase at night. Dyspepsia and slight jaundice are not infrequent. The urine has a characteristic pale, limpid appearance, which, together with the sallow complexion, often leads to the suspicion of a nephritic lesion. The urinary examination is usually negative unless there happens to be a coincident renal lesion.

"Married females abort without any apparent exciting cause further than the syphilitic taint. Their children, if born, are often plump, but soon die of marasmus. The first child is often healthy, but the subsequent children are delicate. Frequently patients complain of sore throat and of an early loss of hair.

"The physical signs are peculiar and diagnostic; the respiratory act is labored and all the accessory muscles of respiration are brought into play, but there is little or no expansion of the chest. Early in the disease palpation reveals increased fremitus, but in the advanced cases it is diminished, owing to the small volume of air entering the lung.

"Percussion gives varying degrees of dullness, which is most marked at the apex, but diminishes toward the base. The percussion-note is dull and of "wooden quality," and localized areas of dullness are found. Owing to the fact that small cavities have thin walls and contain considerable air, the dullness is not so great as would be expected, but, compared with a sound chest, it is decided.

"Auscultation yields most positive and peculiar evidence when the rational history is taken into consideration. The inspiratory and expiratory murmurs are prolonged and harsh, especially the former, with a decided intermission between the two. Broncho-vesicular breathing is frequent at the apex. When the amphoric whisper is absent the presence of a cavity is eliminated. As a rule, crepitant and sub-crepitant râles are absent, thus eliminating chronic bronchitis. It is differentiated from asthma by the absence of the sibilant and sonorous sounds. The vocal resonance is exaggerated over the consolidated portions. Another very strong and pathognomonic sign is a peculiar pain and œdema of the sternum and of the tibial crests. Pressure over these regions produces a very peculiar pain, which is quite intense and accompanied by a recoil not easily forgotten when once recognized. Patients often try to avoid giving evidence of this, but as surely fail as though trying to resist the muscular reaction to the electric current. A noticeable feature is that when the sternum is excessively sensitive the tibial crests are less so, and *vice versa.* There is no other disease in which this localized tenderness in œdema of the periosteum is met with. It is never found accompanying a true miliary tuberculosis, but it is exceedingly common in connection with syphilis, and, from this absence in cases of tuberculosis where the diagnosis was confirmed by the necropsy and its almost universal presence in cases of syphilis, it may be regarded as pathognomonic of a specific taint. In addition to this, it is always found to yield when the patient is under an anti-syphilitic *régime.*

"The diagnosis is based upon five principal signs and symptoms:

"1. The abundant expectoration without any signs of softening of the pulmonary tissue.

"2. The weak and debilitated condition without marked emaciation and the good rational history of phthisis.

"3. Pronounced dyspnœa without any evidence of a cardiac or pulmonary obstruction to the circulation.

"4. The peculiar pain and the reaction to pressure upon the sternum and tibial crests.

"5. The ready response to treatment is another element in the diagnosis.

"The prognosis depends upon the early recognition and treatment. Syphilitic phthisis may run a very rapid course, but, as a rule, it is quite chronic. Dissipation hastens its progress, especially when alcoholic stimulants are used to excess.

"In treating this affection the liver should first be freely acted upon by cathartic doses of calomel or podophyllin, which in some cases should be frequently repeated. Experience has shown that the mixed treatment yielded better results than when mercury or iodide of potassium alone was used. The combination most successful is one-sixteenth of a grain of the biniodide of mercury, from five to ten grains of the iodide of ammonium, and ten to twenty grains of the iodide of potassium in a dtachm of the compound tincture of gentian, three times a day after meals.

"Great reliance is placed on the ammonium salt, not perhaps on account of its intrinsic action in syphilis, but from the action which it has in rendering the two others more soluble, capable of earsier absorption and assimilation, and in increasing their solvent action upon these newly formed gummatous elements—in fact, its action may be compared to that of trituration on calomel.

"The conclusions may be summed up as follows:

"1. *Ætiology.*—Pulmonary lesions attributable to syphilis are very common, more so in females than in males, with the maxinum number of cases occurring between thirty and forty years of age; it is as frequently, if not more frequently, inherited than acquired.

"2. *Pathology.*—Is most frequent at the apex; usually involves both lungs; is a peculiar pneumonic process in the early stages, while later cavities are formed, and it becomes phthisical in the sense of progressive consolidation, followed by softening and the formation of cavities. There is a strong resemblance, but a positive difference, between syphilitic and tubercular phthisis, and a positive anatomical difference between a syphilitic and a miliary tubercle.

"3. *Symptoms.*—These are peculiar and diagnostic.

"4. *Diagnosis.*—This rests mainly upon the rational history and physical signs, the extreme dyspnœa, the periosteal tenderness and the absence of an increased bodily temperature.

"5. *Prognosis.*—This depends upon an early recognition of the trouble.

"6. *Treatment.*—It must be anti-syphilitic to be of any avail. Many cases are unaffected by iodide of potassium alone, unless under enormous doses, but a rapid improvement follows upon the use of the biniodide of mercury, iodide of ammonium and the iodide of potassium."

The foregoing observations and similar studies by the same author (*Boston Medical and Surgical Journal*, April 23, 1885), deserve at this time careful study, for we believe that much of the lung disease which has passed for phthisis among syphilitic negroes, probably accords with Dr. Porter's description of syphilitic pneumonia more than phthisis. Here is a wide field for post-mortem examination which could be cultivated to great advantage by those physicians whose practice is largely among the negroes. Persistent effort would probably, in time, overcome their superstitious opposition to post-mortem examinations. At any rate, in the public hospitals of the South there must be sufficient material for the purpose.*

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A SMALL WAVE OF THERAPEUTICAL HETERODOXY AMONG NEW YORK DOCTORS ON THE ANTISYPHILITIC REMEDIES.

In a discussion which took place on a paper read by Dr. F. R. Sturgis on Syphilis (*New York Medical Journal*, August 1st) some not very novel ideas, but ideas decidedly at variance with the present received practice of the use of mercury and iodide of potassium in syphilis were advanced. Dr. George H. Fox did not consider that syphilis was the frightful disease that the text-books would have us believe. He also thought the result of its treatment by mercury much overrated, and considered that this drug could be dispensed with without involving any risk to the patient. To determine the value of a remedy it was necessary to be able to study the natural history of a disease.

The average case of syphilis is benignant in character, and, given the average good health previous to the inception of the disease, did not believe that it would produce the ravages attributed to it. He did not care to say that mercury was useless in these cases, but thought it was better to rely upon tonic and hygienic measures than upon the drug alone, and he felt convinced that many patients recovered under this mode of treatment. He also thought that when mercury was used the dose should be much smaller than the one usually employed, considering that half a grain of blue mass would accomplish all that could be gained with one or two grains. The treatment of syphilis should no more be based upon a routine plan than the treatment of scarlet fever, and, just as there were some cases of the latter affection so mild as to need no treatment, so there were cases of syphilis that could fall under the same category. It was absurd, in his opinion, to continue mercurial treatment for two or three years in cases that were really so mild that, if left to themselves, they would end in recovery ; but in deference to custom he usually did continue the treatment for six months after the symptoms had disappeared. His opinion was, however, that in the severer forms it was better simply to treat the symptoms as they arose. In the stage of effervescence iodide of potassium had no curative value and should never be continued for a long period. He considered that great harm could be done by giving too much of this drug, as several physicians had reported cases where the symptoms of iodism were substituted for syphilis. Where no good results were noted from the use of this remedy harm was almost sure to follow, and then it would have been much better had the money thus thrown away been expended in beefsteak and country air.

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*Note.—In addition to the foregoing, I would like to state that, from October 1st, 1884, to May 15, 1885, I made forty-two necropsies. In eleven of the cases, or 26.19 per cent., there was, in my opinion, a syphilitic condition of the lung—either gummata or cavities. Each was put to the test for the bacilli of tuberculosis, and in every instance they were found to be absent. The last three of the eleven were also put to the double test for the bacilli of tuberculosis and those of syphilis, and in all of them the latter were found in abundance, but none of the former. One case of the forty-two, or 2.35 per cent., had been diagnosticated as tuberculosis. The sputum was found to contain the bacilli of tuberculosis, and the diagnosis was confirmed by the necropsy.

Dr. D. B. St. J. Roosa remarked that as his chief interest lay rather in general medicine and surgery than in the specialty into which the circumstances of his life had directed him, he preferred speaking on the subject from that standpoint. He had been particularly interested in the discussion because it indicated that the therapeutics of syphilis was approaching a standard of correctness which was hardly comparable with the iron-clad notions which formerly obtained regarding the efficacy of drugs in the treatment of this affection. If it should ever be his misfortune to be inoculated with this disease, he would prefer to put himself into the hands of a good cook and housekeeper, with country air and plenty of exercise, to trusting to the empirical remedies applied by many physicians whom we could designate. The homœopathic theory, which considered disease as a beast, to be hunted out by some other beast, was not even true in syphilis; neither was it true, on the other hand, that this affection could be successfully combated without recourse to drugs of any kind, for was it not apparent to everyone what remarkable results were obtained by the use of iodide of potassium in the late ulcerations of the fauces and the throat? In ophthalmology, however, if patients were in an infirmary, where they could have good and nutritious diet and proper bathing facilities, drugs could be dispensed with, but even then we should not forget that the character of syphilis differed in different individuals.

We have selected the opinions, it is true, of those in the discussion as found in our valuable contemporary, who were rather unorthodox in their idea of the therapeutics of syphilis, that those practitioners who have by long experience verified the use of iodide of potassium and mercury in the cure of syphilis, and even as a therapeutical verification in some cases, may watch the drift of the current.

WARBURG'S TINCTURE—THE SEASON TO TEST ITS VIRTUES.

In the discussion of the treatment of hemorrhagic malarial fever, which recently took place in New Orleans, there seemed to be a widespread belief among those familiar with the disease that quinine, as ordinarily given, is of little value. It is a very curious evidence of conservatism that Warburg's tincture, which has been used with such extraordinary results in India in the treatment of malarial fevers of a malignant type, cannot obtain a fair trial in our Southern States. The testimony to its value has been very extraordinary, and we notice in the twenty-seventh issue of the Report of the China Imperial Maritime Customs, just received, that Dr. B. S. Ringer, of Amoy, reports a case of intermittent fever contracted at Hong-Kong, in which quinine and salicylate of sodium had been repeatedly tried without effect, and arsenic and aloes had also been essayed in vain, but in which the disease rapidly yielded to the administration of 2 drachms of the Warburg's tincture three times a day. The case had continued for many weeks, but under the influence of the Warburg's tincture the temperature fell three degrees in the course of a few days, and on the tenth day after use a normal temperature was recorded for the first time for thirty-two days. It will be noted that the method in which Dr. Ringer employed the Warburg's tincture is different from that commonly practised. As this tincture contains quinine, it has been alleged that the remedy is only quinine concealed in a farrago of inert substances for the purposes of mystification. The importance of the subject justifies us in noting at length the words of Dr. B. S. Ringer in answer to this:

"I have treated remittent fevers of every degree of severity, contracted in the jungles of the Deccan and Mysore, at the base of mountain ranges in India, on the Coromandel coast, in the pestilential highlands of the northern division of the Madras Presidency, in the malarial rivers of China, and in men brought to this (Netley) hospital from the swamps of the Gold Coast, and I affirm that I have never seen quinine when given alone act in the manner characteristic of this tincture; and although I yield to no one in my high opinion of the inestimable value of quinine, I have never seen a single dose of it given alone, to the extent of 9½ grains, suffice to arrest an exacerbation of remittent fever, much less prevent its recurrence, while nothing is more common than to see the same quantity of the alkaloid in Warburg's tincture bring about both results."

Dr. Ringer states that the tincture has usually been administered by him in the following manner:

"One-half ounce (half of a bottle) is given alone, without dilution, after the bowels have been evacuated by any convenient purgative, all drink being withheld. In three hours the other half of the bottle is administered in the same way. Soon afterward, particularly in hot climates, profuse but seldom exhausting perspiration is produced. This has a strong aromatic odor, which I have often detected about the patient and his room the following day. With this there is a rapid decline of temperature, immediate abatement of frontal headache, in a word, complete deferescence, and it seldom happens that a second bottle is required; if so, the dose must be repeated as above. In very adynamic cases, if the sweating threatens to prove exhausting, nourishment in the shape of beef-tea, with the addition of Liebig's extract, and some wine or brandy of good quality, may be required."

Owing to the complexity of the original formula of Warburg's tincture, and the expensiveness and apparent inertness of certain of the ingredients, there is a strong temptation on the part of manufacturers to depart from said formula, but it must be remembered that we do not know at all to which of its ingredients this polypharmaceutical owes its virtue. It is, therefore, entirely possible in any case that a drug left out is the important one. No practitioner has a right to consider that he has made a fair trial of the Warburg's tincture unless it has been prepared by a pharmaceutist of known reputation, whose word has been given that he has in all respects conformed to the original instructions of Dr. Warburg.—*Therapeutical Gazette.*

THE TREATMENT OF CEREBRAL HEMORRHAGE AND EMBOLISM BY THE INTERNAL USE OF CARBONATE OF AMMONIA.

At a recent meeting of the New York State Medical Association Dr. R. C. Van Wyck read a paper on the above subject, and detailed two cases illustrative of the value of this mode of treatment, the advantages of which he states are as follows:

1. As a diffusible stimulant to the general circulation, relieving the anæmia which is present in the brain, increasing the cutaneous circulation, and inducing perspiration—relieving in this way intracranial pressure.

2. By its direct action in dissolving the clots. The only agents which possess this property are the alkalies, and the most efficient of these is ammonia.

3. In the œdema and congestion of the lungs, so often seen in apoplexy, the use of this salt will frequently relieve the condition, partly by its stimulating action on the terminal capillaries, and also by its expectorant action on the bronchial mucous membrane.

4. By keeping up the alkalinity of the blood, and preventing further thrombosis.

Remarking that he did not claim for this drug a specific action, but only that it acted as an efficient auxiliary to the use of other measures, he said that in the treatment of cerebral hemorrhage the following would seem to be the proper order of procedure :

1. To endeavor to control prodromal symptoms, which threaten an attack of apoplexy, by prompt venesection and catharsis.

2. To relieve the period of reaction after paralysis has taken place by arterial sedatives, preferably aconite.

3. To remove the exudation, relieve cerebral anæmia and pulmonary congestion, and prevent further thrombosis by the free use of carbonate of ammonia.

4. To support the system by nourishing, yet unstimulating diet, and by the use of remedies which specially nourish the brain-tissue, such as lactophosphate of lime, cod-liver oil, and the phosphate of zinc.

5. To increase the muscular development by massage, friction, electricity and strychnine.

The carbonate of ammonia should never be given in cerebral hemorrhage, he said, until the period of reaction has fully set in—say from ten days to two weeks. It should then be given continuously for at least a month, or until the retrograde changes in the clot are accomplished. In thrombosis and embolism, if the diagnosis can be clearly made, it should be given at once. The dose employed by him is 5 grains three or four times a day, and it is given in half an ounce of liquor ammoniæ acetatis. He said there is one class of cases in which the carbonate of ammonia had not acted well in his hands, viz : cases of cerebral hemorrhage associated with interstitial nephritis and hepatitis. Here he had good results from the use of sodium phosphate, in doses of from 20 to 30 grains, given in the infusion of dandelion, three times a day after meals, and of bichloride of mercury in doses of 1-24 of a grain, given (sometimes combined in a pill with digitalis and squill) before meals. In conclusion, Dr. Van Wyck read a letter which he had received from Professor Roberts Bartholow, in regard to the utility of the carbonate of ammonia plan of treatment. There is one class of cases, Dr. Bartholow wrote, in which he had seen most admirable results, viz : the cases of thrombosis of cerebral vessels due to chronic arteritis. Embolism of the brain, secondary to lesions of the cardiac valves, is another condition in which the same treatment is very effective.—*Therapeutic Gazette.*

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., Editor.

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THE INTERNATIONAL MEDICAL CONGRESS AND THE AMERICAN MEDICAL ASSOCIATION.

Since our last statement of the prospects and condition of the Committee of the International Congress, nearly all of the Journals have expressed their views. So far, in addition to the *Journal of the American Medical Association*, the *Mississippi Valley Medical Monthly*, the *Detroit Lancet* and the *Nashville Journal of Medicine and Surgery* have expressed themselves in favor of the New Orleans movement more or less modified.

We trust that, whether we have an International Congress in the United States or not, the dilemma now puzzling the wisest men in the American Medical Association may be overcome, and that such of the huge meetings of the Association. It is evident now that, safeguards may be devised as will give the smallest scope for medical politics in the future. It is almost marvellous that such a threatening condition of things was never before reached when one analyzes a few in the future, the opportunities for medical politics must be reduced to a minimum, and every effort made to make the production of scientific work the chief object of the Association and a test for preferment. We do not sympathize at all with the suggestion that a new national society should be formed. Secession is a costly business—it arrays good friends against each other, consumes valuable substance, and is so liable to end at last in striking colors you have pride in, and in grounding your arms to an enemy having the only advantage over you in being more numerous and better fed. For these and other reasons we prefer to encourage every means which will make the American Medical Association what the British Medical Association is, and we believe that the surest means to this end is to build up the Journal of the Association ; for no one can doubt, although of late some of the editorials on the Congress have been acrimonious, that the editor has all the qualities of an earnest heart.

The *Medical News* will publish a full list of gentlemen who have declined to take part in the reorganized Committee of the Congress, and with this inventory it is possible that we may be better able to forecast the chances of a good working body under the new arrangement. The prognosis, as judged by the opinion of a large majority of the medical journals in this country and England, is bad, and the friends of the New Committee are daily widening the breach.

CHEERFULLY CORRECTED.—We ask our readers to turn to their July JOURNAL and on page 4 *seventh* line from the top in place of "is a wound of the leg," read "is the uncle of the lad," and also to correct the name of the author of the article in question. for, instead of our venerable friend Dr. John H. Hill having written it, it is from the pen of Dr. Thomas Hill, of Goldsborough.

REVIEWS AND BOOK NOTICES.

DRUGS AND MEDICINES OF NORTH AMERICA. A Quarterly Devoted to the Medicinal Plants of North America; their Constituents, Products and Sophistications. By J. U. LLOYD and C. G. LLOYD. Cincinnati: J. U. & C. G. Lloyd, 180 Elm St. $1.00 a year.

KÖHLER'S MEDIZINAL–PFLANZEN in naturgetreuen Abbildungen mit Kurtz Erklärendem Texte. Gera-Untermhaus, 1885. Verlag von Fr. Eugen Köhler.

This is the sixth number of Lloyd's "Drugs and Medicines," which we have noticed before as having been so auspiciously begun. This number concludes the very elaborate article on *Hydrastis Canadensis.* It is the most exhaustive botanical and chemical treatment of this plant in any language. It closes with bibliographical references to this plant covering three large pages and more, and extending from 1793 to 1884.

The two other plants considered are *Trollius laxus* and *Coptis trifolia*, Gold thread. The latter is amply and effectually illustrated as to the whole and dissected plant, and a map to show its geographical distribution. Coptis, like many other plants once popular, has long fallen into neglect. In 1835, though, we are informed that the drug was worth $2.00 a pound, and now has scarcely an established value. This faithful work is still moving along in the Ranunculaceæ, and if all the Natural Orders are dwelt upon as minutely it will be eventually an enormous work. It is very cheap, and for all this it is beautifully printed and correctly illustrated, and will scarcely leave anything more to be said about medicinal plants during this century.

Köhler's Atlas of Medicinal Plants is a handsome quarto, illustrated with colored plates, accurate in drawing, in sober and natural colors. The present installment of numbers illustrate *Verbascum plomoides, L., (mullein); Sambucus migra, L., (elder); Veleriana officinalis, L.; Artemisia Cui, Berg; Locopodium clavatum, L.; Mallotus philipiensis; Vitis vinifera. L.; Mellilotus officinalis; Fagus Sylvatica, L.; Pirus malus, L.; Prunus Cerasus, L.;*

Cydonia vulgaris, Pers.; Papaver Somniferum, L.; Saliva officinalis, L.; Thymus Serpyllum, L.; Symphytum officidale, L.; Lactuca Viroea, L.; Rubus Idaeus, L.; Althea officinalis, L.; Larix de cidua, Miller; Juniperus Communis, L.; Abies alba, Miller; Beta vulgaris, L., var. Rapa; Populus nigra, L. This is a work of great value, and is published at the very low price of 1 mark, to be procured through the mails from the publishers with as little trouble as any book can be published in New York.

Notwithstanding all these helps to medical botany, it is not a popular study, and is pursued chiefly by a few eccentric doctors, mostly eclectics.

A MANUAL OF DERMATOLOGY. By A. R. ROBINSON, M.B., L.R., C. & S. Edin. With 88 Illustrations. New York: D. Appleton & Co., 1, 3 & 5 Bond St., 1885. Pp. 647.

Dr. Robinson says in his preface that this volume is the basis of a future much larger, more pretentious and more original work. He has succeeded admirably in presenting the subject according to the best teaching of the day, and every page gives evidence of the extensive work of the author in the department of histology. Many subjects excluded from other works on diseases of the skin have been introduced by Dr. Robinson with propriety, and we trust that in his promised larger work he will elaborate still more upon topics which are now left to general descriptions. Burns, small-pox, cow-pox, syphilis, and many other topics need the special work of the dermatologist, and should not be so exclusively left to surgical and medical treatises.

Very few of the illustrations are inserted as aids to diagnosis, and two or three of them, as *rupia syphilitica*, p. 161, and *syphilitic dactylitis*, p. 183, are very coarse and fall below the stock pictures we are so familiar with. The descriptive text is satisfactory, and as a book of reference it is trustworthy and helpful, notwithstanding the fact that there is not a long array of formulæ. The absence of the latter is not at all to be regretted, for it is well known that some dermatologists are not given to the publication of their best formulæ, but appear to reserve them for the patients who are attracted to their offices by the impression their volumes make upon the country doctor. While the treatment of skin-diseases is largely a matter of diagnosis, it is much more dependent upon the proper application of nicely proportioned prescriptions, and these compounds having been ascertained by the specialist by large experience, he is not very free to divulge them. After all, though, it is general principles which should be inculcated, and this Dr. Robinson's book will surely do if it is diligently read.

Poisons—Their Effects and Detection. A Manual for the Use of Analytical Chemists and Experts. With an Introductory Essay on the Growth of Modern Toxicology. By Alexander Wynter Blyth, M.R.C.S., F.C.S. With Tables and Illustrations. Vol. I. New York: William Wood & Co., 56 & 58 La Fayette Place. 1885.

This volume opens with a most intensely interesting chapter on the famous poisoning and poisoners, historically considered, going back into the mythical regions, between the 14th and 16th centuries. It is a story of infamy and devilishness, which, compared with the vilest crimes a prurient public is fed with every morning in these days which we are accustomed to call degenerate, would dwindle into trifles. No less interesting, and rather more relevant to the general subject, is the chapter on the growth and development of the modern methods of chemically detecting poisons. It was not until in the 18th century that a test for arsenic began to be developed, and it was not until 1836 that Marsh published his memoir on a "New Process of Separating Small Quantities of Arsenic from Substances with which it is Mixed"—an era in toxicology. Orfila's great work had appeared twenty years before this epochal publication by Marsh, and was substantially the foundation of toxicology as a science. From this early day in the 19th century chemistry developed into an exacter science, but it has developed so slowly that the author in enumerating works on toxicology gives less than seventy.* Coming close upon the issue of the second edition of Wormley's masterly and elegant "Micro-Chemistry of Poisons," the reviewer cannot help draw a comparison between the two. As the work of Blyth is not yet complete it would not be fair to venture an assertion as to the entire work, but we cannot resist saying that we have not examined a work in many years that gives us so much satisfaction as this one does, and to add, further, that it is an important addition to Wood's Library.

THE TECHNOLOGY OF BACTERIA INVESTIGATION. Explicit Directions for the Study of Bacteria, their Culture, Staining, Mounting, etc., According to Methods Employed by the most Eminent Investigators. By CHARLES S. DALLEY, M.D. Boston: S. E. Cassino & Co. 1885. Price $2.00.

The downfall of Ferran's pretensions to a discovery of the vastest importance, should point a moral for a book like this. Whereas, Dr. Ferran entered upon a subject requiring truthfulness, training in technical methods, a knowledge of the botany of spore-bearing plants, facilities for pathological demonstrations, a knowledge of work done by others, a dispossession of all preconceived theories; and lastly, a thoroughly equipped laboratory coming up to the requirements of the day, he has failed in every essential particular. It takes accurate technical knowledge and manipulation to fit one to undertake studies in the microscopic bodies (so enthusiastically) spoken and written about as "germs," meaning, of course, "disease germs," and it is by mastering volumes like the one before us that such preparation will be greatly aided.

This little work is handsomely printed, reviews all the methods in use for the study of bacteria, and contains a copious bibliography in each branch of the subject. We hope that very few of our best young men will forsake clinical studies to become fungologists, but to those who do we recommend to them Dr. Dalley's very handsome contribution.

ELEMENTS OF MODERN MEDICINE; Including Principles of Pathology and Therapeutics, with many Useful Memoranda and Valuble Tables of Reference. By R. FRENCH STONE, M.D. New York: D. Appleton & Co., 1, 3 & 5 Bond St. 1885.

This is a neatly printed pocket volume of medical practice, bound in limp morocco, with flap, and two pockets for prescription papers and fever charts. The little volume is a judicious compilation, well arranged, and printed in such small type that it is, in fact, a large volume, condensed into a small compass, fulfilling more nearly the place of a complete "manual" than many a padded book claiming to be a manual. The fever charts are condensed and convenient, and the therapeutic table, if largely drawn from the list of a wholesale pharmacist, is none the less an array of elegant and well-tried combinations, such as the young doctor would probably not devise as well in a life-time of practice.

NOTES.

A gall-stone weighing 394 grains was removed (post-mortem) from a woman. It was 3½ inches long. This case was reported (*Boston Medical and Surgical Journal*) by Dr. J. H. Musser, of Philadelphia, for Dr. Livingstone, of Columbia, Pennsylvania.

The New Orleans Fever Commission.—The Louisiana State Board of Health have appointed the following physicians ("all in long practice") to investigate and determine the nature of all cases of fever reported as suspicious: Dr. Charles Turpin, Dr. G. Devron, Dr. J. P. Davidson, Dr. F. Loeber and Dr. C. J. Bickham.

There is a case of aphasia described in the *British Medical Journal*, June 10, in which the chief lesion was seated in the supramarginal and angular gyri, Broca's speech centre being unaffected. In this case the distribution of brain-softening pointed to the plugging of the distal portions of the Sylvian artery as the cause of the lesion, but the proximal portion of the artery was pervious.

Memoir of Charles Hilton Fagge, M.D.—Messrs. P. Blakiston, Son & Co., have issued a memoir of this distinguished English physician. He possessed very versatile talents, and was a very hard worker in all the departments of medicine. His principal work was the translation of Hebra's Diseases of the Skin, published in five volumes by the New Sydenham Society, but he contributed many original papers in therapeutics, and in skin diseases, and other subjects.

Quinine in Hæmorrhagic Malarial Fever.—The *New Orleans Medical and Surgical Journal* (August) denies the sweeping assertion copied into many of our exchanges, that the "New Orleans physicians claim that quinine has no beneficial action in hæmorrhagic malaria, but increases congestion of the kidneys and produces greater hæmorrhage; but that the free use of calomel gives the best results in this form of malarial poisoning." "We do not know," says the editor of the *New Orleans Medical and Surgical Journal*, "where our valued exchange got its information; we do know, however, that some of our best physicians believe in giving, and do give, quinine freely in this disease, considering it the sheet-anchor in its treatment." The Board of Health will accept their decision as final, and will act accordingly.

AMBLYOPIA FROM ALCOHOL AND TOBACCO.—Galezowski, in about 18,000 eye patients saw 151 cases of amblyopia from the use of tobacco and alcohol, the majority suffering from both drugs, and only 21 from mere tobacco amblyopia—*Detroit Lancet.* [Without having actual statistics to bear out the assertion, we believe we are safe in saying that tobacco amblyopia, especially among snuff-dipping women, is far greater than this.]

APPARATUS AND MATERIAL NECESSARY FOR CUISINE OF SICK-ROOM.—Dr. William Roberts delivered an address "On Feeding the Sick," before the British Medical Association, July 29th, and it appeared in the *Medical Record* August 1st, but by this rapid transit the address has lost none of its excellence. We have taken the liberty of quoting the following:

"If I were asked to enumerate the ingredients and apparatus which are necessary for the cuisine of the sick-room and nursery, I think I would do so very briefly. In addition to the resources of the domestic kitchen and larder, the sick-room kitchen should contain a supply of the following flours: oat, maize, malt and lentil flours, in a finely pulverized condition and freed from bran. It should be provided with a solution of sodium bicarbonate of known strength. This would be of use to add to milk when necessary, and to assist in the preparation of peptonized articles of food. Next to these would come a reliable pancreatic extract, and a preparation of pepsin or rennet for the production of whey. The associated apparatus should include a thermometer, wherewith the nurse could, when desirable, heat up cold-made meat infusions to a proper temperature, and regulate the warmth required in the predigestion of food. A double-cased saucepan would form an indispensable item; this makes an abominable hot-water bath for the preparation of beef-tea and fortified gruels.* A pair of scales, glass measures, and a mincing machine would complete the list. Finally, there should be, for the service of the nurse, a card or sheet containing plain directions for the preparation of the various kinds of liquid food."

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*By *fortified gruels* he means gruel prepared with either of the flours mentioned above, to which is added malt extract to liquefy the otherwise too pasty product. By a small admixture of Trommer's malt or Fairchild's pancreatic extract, as much as 20 per cent. of starch can be added and the gruel remain perfectly fluid.

ANTI-VACCINATION CONGRESS AT CHARLEROI, IN BELGIUM.

The above caption sounds very grand, but we are informed that enough half-informed and purblind people could be found to make up a "Congress." A *New York Herald* representative detailed the "vaccination" of Ferran. The *London Times* says a very animated discussion took place on the compulsory vaccination of immigrants into the United States. Great effect was produced by the exhibition of photographs forwarded by Dr. Dwight Stowe, of Boston, showing the terrible injuries thus inflicted on English immigrants. In one instance five immigrants arriving in the same ship, and vaccinated from the same lymph, were afterwards affected with most loathsome diseases of a syphylitic character, which totally ruined their health and prospects of life. Much other startling news was devoured by the "Congress," but when a resolution was introduced by an Englishman asking European governments to make vaccination penal on account of the disastrous effects of the practice, it was negatived by a large majority. All this senseless demonstration is the result of compulsory vaccination, and by lugging in Ferranisation to heighten the impression, they have not chosen a winning card. Perhaps it is the best company the new inoculation could get into. Ferranisation will die out when it is better known, and so will anti-vaccination.

* * *

HYDRASTIS CANADENSIS.

The rhizome, as is well known, contains two alkaloids, berberine and hydrastine. The former it possesses in common with several other plants, as coptis, xanthorrhiza, calumba, menispermum, berberis, etc., while the latter, as far as known, is peculiar to the plant. Of berberine the drug contains an average about ⅛ per cent. This alkaloid was formerly regarded as the most important medicinal constituent of the drug, but the researches of Professors Bartholow and Suttler appear to prove that it has the value only of a bitter tonic, while it is to the white alkaloid, hydrastine, that the peculiar medicinal virtues of the plant must be attributed. Hydrastine has the chemical formula $C H^{23}NO^{6}$, is crystalline, white, or colorless, insoluble in water, soluble in hot alcohol, but not in cold, and combines with acids to form salts which are not crystallizable, but are soluble in water. It is used in the form of the hydrochlorate, which is now obtainable in the market in a nearly pure form. The drug yields of this alkaloid on the average only about 1-5 per cent. Its dose is from 1-3 to 1-4 grain.

In some of its physiological effects it closely resembles strychnine, impressing the nerve centers in the same way, and in overdoses producing in a similar way tetanic convulsions and death. Strychnine acts with greater intensity, however, while the effects of hydrastine are wider in extent, affecting not only the nerve centers, but peripheral nerves and muscles.

It seems certain, therefore, that the well-known beneficial effects of hydrastis in catarrhal conditions of the gastro-intestinal and other mucuous membranes are not due solely to a tonic influence, combined with a power to prevent or retard fermentive changes, as has been supposed, but to the influence exerted by the hydrastine through the nerves upon the secreting surfaces of the mucuous membranes. These researches raise the drug to a position of importance in the materia medica which it has not heretofore occupied.

E. S. B. *in the Pharmacist.*

LETTER FROM SIR JAMES PAGET ON THE ORGANIZATION OF THE INTERNATIONAL MEDICAL CONGRESS.

[The accompanying letter has been received in this city, and is published for the information of the American profession, as it gives an authoritative statement concerning the manner of organizing preceding congresses, as well as the general understanding at Copenhagen in reference to the organization of the Washington Congress.

Sir James Paget, as is well known, is a member of the present

Executive Committee of the Congress, and the President of the London Congress, and the immediate predecessor of the late Prof. Panum in the Presidency of the Copenhagen Congress, and he therefore speaks with the highest authority concerning all matters which pertain to the rules and customs of the Congress.—EDITOR *Medical News.*

1 HAREWOOD PLACE, HANOVER SQUARE,
LONDON, July 22, 1885.

Dear Dr. Hays:—I am very sorry to learn from some of your journals, as well as from letters which I have received, that there are serious differences of opinion among the members of our profession in your country as to the arrangements to be made for the International Medical Congress which it is proposed to hold in Washington in 1887. The deep interest which I feel in the Congress makes me venture to write to you in the hope of helping towards a right decision of some of the questions in dispute; and chiefly, by stating what I believe to have been the custom at former meetings.

I believe that a principal question relates to the authority, if any, which was given by the Congress at Copenhagen in 1884 to the gentlemen who conveyed the invitation that the next meeting should be held in the United States of America.

I believe that it has never been considered that the members at one Congress should give any formal authority for any part of the organization of the next. At each meeting some place has been named at which it was deemed desirable that the next should be held; and at the same time, or soon afterwards, some persons of high repute in that place have been asked to take such steps as they might deem necessary or most likely to promote a successful meeting.

Thus, after the Congress at Amsterdam, in 1879, the President, Prof. Donders, wrote, in the first instance, to Sir Joseph Lister and Sir William Bowman, and by them, and those whom they asked to act with them, the first and all the principal subsequent measures were adopted for the promotion of the meeting in London. Sir Risdon Bennett, the Chairman of the Executive Committee, communicated to Prof. Hanover and Prof. Panum, of Copenhagen, the desire that the next meeting might be in one of the chief cities of Scandinavia; and those gentlemen, and others acting with them, began and had the principal part in all the arrangements for the Congress in Copenhagen.

I fully believe that it was understood at Copenhagen that the same course would be pursued in the organization of the Congress to be held at Washington. I was at the General Meeting at which, after some discussion, the majority of the members present expressed the wish that the next Congress should be in the United States; and I have no doubt that it was expected that the distinguished American gentlemen there present would obtain the coöperation of the most eminent of their professional bretheren, and would, with them, make all the arrangements which they should deem best.

Certainly it was not supposed that the Congress would be regulated, with any degree of exclusivness, by the members of one medical association, however numerous; and I think it quite as certain that, if this had been thought possible, the proposal that the next meeting should be held in the United States would not have been adopted.

I am sorry, also, to feel sure that if the Congress be not supported by the eminent men who have now declared that they will take no part in it, the members of the profession in this country who will attend it will be very few. And in this opinion, as well as in all that I have written here, I have the concurrence of several of the most influential of the London Congress with whom, before this writing, I consulted.

Believe me, dear Dr. Hays,
Most truly yours,
James Paget, *in Medical News.*

THE TREATMENT OF CHOLERA.

Prof. Da Costa, in a lecture on this subject at the Jefferson Medical College, expressed the following views:

Prophylaxis.—Since filth of all kinds leads to a rapid production of the germs, the locality should be rid of the same. The dejecta and cess-pools should be disinfected. Inspect the source of water supply, since the germs can obtain easy access to wells. Drink only filtered water. Speedy burial of the dead should be urged. No change in diet is necessary. Live as usual. Better avoid stimulants in the prophylactic treatment. Among the disinfectants to be used are corrosive sublimate, zinc, chloride, cupric sulphate, iron sulphate and permanganate of potassium.

Internal Treatment.—Must check the early diarrhœa if you desire to be successful, for, in most cases, if you stop this you put an end to the disease. For this purpose the most valuable remedies are sulphuric acid in combination with tr. opii deod., with aq. menth. pip. In India the acetate of lead, grs. iv., with pulv. opii, gr. j. at once with the diarrhœal outbreak, and continue every three hours until it checks the discharges. If the above cannot check the diarrhœa, use capsicum, gr. j. with opium and camphor.

Second Stage.—Here we have cramps, vomiting and purging. Now, stop the use of fluids; allow but a little ice in the mouth. This is a point of great importance. As little food as possible Stimulus in small amounts, but frequently repeated. Mustard to the epigastrium. Administer every hour or two:

℞. Tinct. capsici. gtt. ij.
Tinct. opii deod., gtt. x.
Aquæ camphoræ, f ʒ ij.
M.

If the stomach does not retain the opium, give it hypodermically; but, if possible, give it by mouth, since it appears to have a local effect. To relieve the cramps, use chloral subcutaneously, in large amounts. When reaction has set in, allow fluids to wash out the kidneys. If he has not reacted, and is not doing well under opiates, try calomel, especially in cases in which the secretions have not been arrested by opium. Give at first, gr. v. to gr. x., then order gr. $\frac{1}{4}$ every hour or so. When the pulse is sluggish, and the temperature below normal, use friction and a hot bath. In this the stage of collapse, stimulants will not be absorbed or they would be of utility, though brandy or whiskey might be tried hypodermatically.

Caffeine, gr. iss–gr. ij., hypod., stimulates the heart's action. If still the patient fails and the veins are swollen, etc., resort to blood-letting, but possibly the injection of fluids into the veins is better; often the results are marvellous. The thickened blood is made to circulate. Use for this purpose the following:

℞. Sodii chlor., ʒ j.
Sodii carb., ʒ iij.
Aquæ, Ovj.
M.

Get it up to 108° Fahrenheit and a specific gravity of 1.005.

Sig. Throw in a few ounces at a time, until 40 ounces have been injected. When the patient again flags, throw in a like amount.

The inhalation of oxygen has done no good.—*The College and Clinical Record, June 1st,* 1885.

FERRÁN'S FIASCO.

It would be wrong to jump to the conclusion, from the utter collapse of Dr. Ferrán's vaunted procedure in the preventtve inoculation of cholera, that inoculation may not yet be so carried out as to answer the purpose. But the tendency is a natural one to settle down into the stagnation of such a conclusion whenever a grand scheme of any sort is proved to be a bubble, and especially when, as in this instance, its promoter takes a position where he shows himself rather a seeker after pecuniary reward than a devotee of either science or humanity. It is of little consequence to the world when a person who has posed for a time as a great discoverer and a benefactor of the race drops to the level of a charlatan, except that the occurrence tends to create a disinclination on the part of competent and well-balanced men to enter upon a path which, whatever promise it might otherwise have seemed to hold out, has been in a certain sense defiled. To be sure, this feeling of aversion is always outgrown in time, but results that, but for its existence, would in all probability have been arrived at with rapidity, are postponed for many years, to the great detriment of progress.

If failure had been all that was to be chronicled of Dr. Ferrán's process, that in itself would not have brought him down to the station he now occupies in the eyes of the profession ; he would simply have been set down as one who had generalized from insufficient data—a proceeding not unheard of in men who have nevertheless continued to enjoy the respect of their fellow-laborers, and even done subsequent solid service to science. Nor would his reserve—to use no harsher term—as to the details of his laboratory work, if, indeed, he has done anything worthy of the name, have aroused any special distrust, provided it had gone before his bold announcements. He might have been as silent as the tomb, and sported his oak like a miser, so long as his project was in that part of the experimental stage which ought unquestionably to have been worked out to the last detail before inoculations of human beings were resorted to as the final test; and it could not reasonably have been objected that he was straying from the legitimate course. But, when he appeared, so to speak, vaunting a perfected process with one breath and smothering investigation with the next, the weakness of his position was all but demonstrated.

It was natural, too, that he should look forward to a pecuniary reward when he had satisfied the world of his success. And under such circumstances, beyond all question, the recompense would have been forthcoming, and it would have been a handsome one. Jenner not only accepted, but took means to obtain, a substantial recognition of his great services to mankind, and the fact has never dimmed the luster of his fame. His countrymen were glad and proud to afford him a tithe of the money that his discovery had saved, to say nothing of its other beneficent consequences, although the whole world gained by it as well as themselves. But Jenner worked patiently for years before he even announced his conclusions, and he countenanced no movement looking to a pecuniary recompense until all civilized communities had had the soundness of his doctrine and the utility of his practice demonstrated to them over and over again and on a large scale.

As matters stand, however, a practice abundantly shown to be well-nigh, if not altogether, useless, secrecy as to details—not for purposes of undisturbed study, but apparently only for mystification—and a hand held out after the manner of Artemus Ward's showman when he said to a would-be dead-head: "You can pay without going in, but you can't go in without paying"; all these features make the contrast sharp between Dr. Ferrán's case and that of any one of the world's few great discoverers. Let us hope that this very pointedness of the contrast may to a certain degree rob his fiasco of the retarding influence it might otherwise have had on researches in the preventive inoculation of cholera.—*New York Medical Journal.*

THE RETIREMENT OF DR. CHAZAL.

In their announcement of the session of the Medical College for 1885–'86 the faculty of that institution, in regard to the resignation of Prof. J. P. Chazal, M.D., from the Chair of Pathology, say: "The faculty feel much regret in having to announce the retirement of Prof. J. P. Chazal, M.D., from the Chair of Pathology, of practice of medicine and of clinical medicine, Prof. Chazal has been with them for the last eighteen years, struggling through the period of their great difficulties and depression. By his perseverance, energy and advice, he has done much to further the interest of the College, and by his erudition has contributed greatly to its literary status; and now, when comparative success has been attained, he has asked to be permitted to resign—an act that he has been contemplating for sometime—but has been induced heretofore to defer. It is with sorrow that the trustees and faculty accept his resignation, and he bears with him the kind wishes and the warmest remembrances of his colleagues.'

Dr. Chazal's long connection with the Medical College and his eminent ability and qualifications to fill the chair in which the better and maturer part of his life has been spent are well and widely known throughout the State. The regret of the faculty is as sincere as that of this community and the people of the State at large, who have for many years received directly and indirectly the benefits of his efforts in the direction of sustaining the high standard of the Medical College and in the education of those young men who have chosen to follow the medical profession. In Dr. Chazal the institution loses a competent, skilled and able instructor, and a gentleman whose place it will be difficult to fill with a worthy successor— *Charleston News & Courier.*

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The Board of Medical Examiners will be in extra session in Raleigh on the 24th and in Asheville on the 26th. Since the May meeting of the State Society numerous letters have been received at this office and at the office of the Secretary of the Board (Dr. Bellamy), and, judging by these indications, there will be a large number of applicants.

We note with gratification the cheerful obedience the profession at large is yielding to the law, and by this means the line of demarcation is being rapidly drawn between scientific medicine and ignorant pretension.

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THOMAS F. WOOD, M. D., Editor.

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ORIGINAL COMMUNICATIONS.

MICRO-ORGANISMS IN RELATION TO DISEASE.

By HUBERT HAYWOOD, M.D., Raleigh, N. C.

Annual Essay, Delivered before the Medical Society of North Carolina, at Durham, May 20th, 1885.

(Continued from August JOURNAL.)

Relapsing Fever.—Obermeier discovered in the blood of relapsing fever patients, and never in any other disease, a spirillum, which is called spirochæte Obermeieri. It is uniformly present when the fever is at its acme, and very quickly disappears during defervescence. Koch and Carter have succeeded in the artificial cultivation of these germs, and although there are no reports of successful inoculations of isolated cultivated spirilla, yet their causative relations are pretty generally accepted, for inoculations of blood filled with them give positive results and blood of the same patient devoid of them negative results.

Scarlet Fever.—In this disease Coze and Feltz find micrococci in the blood, Klein in the throat ulcerations, and Pohl Pincus in the throat discharges and adherent to the scales of desquamating epidermis. They have not yet been subjected to Koch's experimentum crucis.

Swine Plague.—Pasteur, confirmed by Salmon and Neguin, demonstrates the presence of a micro-coccus in connection with this disease, and fails to find the causative relation of a bacillus reported by Klein. Both of these observers claim the success of pure culture inoculations. Klein contends that Pasteur's cultures were not pure, but were contaminated with or contained solely the germs of fowl cholera.

Syphilis.—Numerous investigators have observed micro-organisms in the different manifestations of this disease. Hallier, Klebs and Bergmann, also finally Birch-Hirschfeld, Morison and Aufrecht find micrococci or syphilicocci, while Salisbury sees a fungus-crypta syphilitica. None of the above have been conclusively proven to be the veritable germs of syphilis, for it has been impossible to inoculate the lower animals with the disease, the only cases of reported exceptions being Klebs' monkey and Martineau and Hamsine's young pigs. Lustgarten, on the contrary, confirmed by Koch, has recently described a bacillus, characterized by color reaction, form and relative position, which he has cultivated and which he claims, upon very strong grounds, is the specific germ of syphilis.

Tuberculosis.—Koch, in the spring of 1882, after two years of careful cultivation and painstaking inoculation experimentation, announced the discovery of a bacillus, which is invariably present in tuberculosis material and invariably absent in other than tuberculosis morbid products. This bacillus, he claims, bears a causal relation to tuberculosis, and he has so satisfactorily established the role of this microbe by fulfilling the requirements of exact science that a large number of our best observers accept the conclusion of cause and effect as demonstrated. Others have, however, questioned the experimental proof offered by Koch, contending that tuberculosis could be produced in animals by inoculation not only with Koch's cultivated tubercular bacilli, but with a variety of organic products of non-tubercular origin, with inorganic materials, and even from the inhalation of inorganic particles. In answer to this it is replied that the positive results springing from experimentation of this kind amount to nothing, for the fact is lost sight of that animals during confinement readily develop tuberculosis, and in laboratories where experiments have been carried on and tuberculous animals confined, it is almost impossible to prevent the accidental infection of experimental animals with tuberculosis and the accidental contamination of the materials used for experimentation with tubercular bacilli or their spores. These objections bear with especial force on Dr. Formad, who, of all others in this country, has been most active in his opposition to Koch's assertion, and who, after a long discourse on the subject, embracing numerous experiments of his own, and including citations and deductions from a host of observers, finally concludes :

1. The bacillus of Koch is a valuable diagnostic sign of tubercular disease.

2. Nothing is proved by its discovery for the etiology of tuberculosis.

3. The two ready acceptance of the bacillus doctrine is not justifiable, and is likely to do more harm than good.

4. Neither phthisis nor any form of tuberculosis is contagious.

We acknowledge the correctness of his first conclusion, but as for the other three—for the reasons above given—for the lack of care and scientific accuracy of detail manifested—we must give them no consideration more than their mere mention.

Toussaint affirms that the tubercular deposits resulting from inoculation with non-tubercular material are not infectious, and that experimental pseudo-tuberculosis may be distinguished from tuberculosis proper by inoculation experiments, although the pathological anatomy of the two diseases is identical. Koch, on the other hand, does not admit that tuberculosis can be produced by material from which living tubercle bacilli or their spores are unquestionably excluded. Mr. Watson Cheyne and many others also affirm that material other than tuberculous does not produce tuberculosis. A great deal of this opposition, confusion and difference of opinion is due to a failure to agree upon a definition of tubercle and the confounding of tubercle with with tuberculosis. There is nothing characteristic in the individual nodule from the histological standpoint.

The bacillus tuberculosis is a slender rod of a width of one-half of that of its length, and from a quarter to a half the diameter of a blood-corpuscle in length—never exceeding the diameter of the blood-corpuscles. It presents certain distinctive characters as regards its behavior with staining reagents—with Ehrlich's modified method, which is the best—the bacilli retaining their red color, while all other bacteria are decolorized, the bacillus of leprosy, which has other points of differentiation, being the only exception. They are motionless—some with bright oval spores, some without—some smooth and homogeneous looking, others more of a beaded appearance, apparently being made up of a chain of oval elements. They are not infrequently covered or bent at an angle more or less acute, and not infrequently occur in pairs or in little groups. The cultivated bacilli grow slowly, requiring, according to Koch, at least a week before there is any evidence of multiplication. They are found in considerable numbers in tubercles of recent formation—more especially at the border of cheesy masses, but are not so abundant in old tubercles. They are abundant in the giant cells, and seem to possess a special relation to these cells. Koch found them invariably in miliary tubercles, in the so-called cheesy tuberculous product, in phthisical cavities, in tuberculous ulcers of the intestine, in tubercles of the brain, in lymphatic glands, which had undergone cheesy degeneration, and in fungus granulations within joints. Others have found them in caseating scrofulous glands, in the air of hospital wards occupied by patients affected with phthisis, in the expired breath of phthisical patients, in the purulent discharge from a perineal fistula, in tuberculous affections of the kidneys, Rosentheim, Babes and Barrow in the urine in tuberculosis of the urinary organs, in expectorated blood, Weichselbaum in the blood of a man suffering from acute miliary tuberculosis, Lichtheim in the stools of intestinal tuberculosis, Fraenkel in the secretion of tuberculous laryngeal ulcerations, in the sputa from phthisical patients (though not invariably, yet not in any other sputa), where they occur both within and without the pus cells, and are especially numerous in the epithelioid cells. The scrofulous and tuberculous products are shown to be essentially identical by the presence of the bacillus in each. The bacillus being the criterion of tubercle, its presence demonstrates the identity of the two forms of tuberculous disease, which Virchow, Niemeyer and others regarded as distinct affections, i. e., miliary tubercles and the collections of cheesy matter constituting the anatomical characteristic of ordinary phthisis, the latter being considered a particular form of pneumonia, and not a tuberculous affection. Klein and others contend that the tubercle bacilli in humans and cattle are not identical, and that tubercles—young and adult—occur, where no bacilli are found, whereas in the same section cheesy tubercles may be present containing numbers of tubercle bacilli. Koch, on the contrary, not only considers the pearl disease of cattle (*perlsucht*) as identical with the tuberculous disease of man, but also a cheesy glandular disease of swine and a disease of fowls, the bacillus being present in all. He also declares that the bacilli are never absent in tuberculosis, but are present in all cases, even though they escape observation, and that when they are not found in certain tubercles, they are present as unstained spores or are invisible, because, being dead, they do not readily stain, or because, the process being at a standstill, they are absent. He also accounts for the failures of some investigators by the small number of experiments, and by lack of skill to stain, and ability to detect, the bacilli. Mr. Watson Cheyne and many others have confirmed Koch's assertions as regards the constant occurrence of the tubercle bacilli in the tubercles of animals artificially tuberculized. Koch artificially cultivated these bacilli, and no matter how far removed from the original source—no matter whether derived from spontaneous or artificially induced tuberculosis, from human or bovine tuberculosis, they reproduced the disease when inoculated into suitable animals. This has been especially proven by the invariable success of inoculation experiments in the eye, which, according to all observers, is very rarely, if ever, in animals the seat of spontaneous tuberculosis.

Diagnosis.—The presence of these bacilli in the sputum is not only one of the earliest diagnostic signs of incipient phthisis, but one of the most constant of pulmonary phthisis and one of the most delicate tests of the disease. They are rarely absent from the sputum during the progress of phthisis. Their presence, therefore, must be regarded as a positive proof of the disease, but as they are not invariably present, their absence cannot be taken as positive evidence of the non-existence of the disease. If, however, after repeated examinations, they are found to be absent, we have strong presumptive evidence that there is no tuberculosis.

Prognosis.—Their abundance or paucity, after repeated examinations at short intervals in the same case, is a valuble prognostic sign, showing the activity or non-activity—the progressiveness or non-progressiveness of the tuberculous affection. The absence also of the bacilli, after repeated examinations in a well marked case of phthisis, may be taken as evidence that the tuberculous affection is ended, although more or less cough and expectoration continue as a result of the lesions incident to the tuberculous disease.

Contagiousness.—Not only can consumption be communicated by inoculation experiments and the consumption of tuberculous matter and the milk and flesh of tuberculous cattle, but also by the inhalation of the expired air of consumptives and through the medium of tuberculous sputa. M. Ch. Fernet contends, too, that primitive genital tuberculosis may probably be caused by direct contagion in sexual intercourse with a subject affected with genital tuberculosis, thereby producing secondary general infection. There are besides numerous experiments and cited cases, which prove its undoubted contagiousness in various ways. The most usual way of communication, however, is through the lungs, with the inspired air and through the agency of tuberculous sputa and breath.

Treatment.—As yet this discovery has not shed any light upon the specific treatment of consumption, but has opened up inquiries in regard to its prophylaxis. What, then, are we to conclude from all of this? The answer is simple:

The best and greatest number of observers, some of whom were at first most violent in their opposition, have confirmed Koch's demonstrations of the parasitic nature of consumption, and have also declared that every tubercle comes from a bacillus, that Koch's bacillus tuberculosis is the *vera causa morbi,* and that tuberculosis is a contagious disease.

Typhoid Fever.—A short, thick bacillus, with spores and rounded ends, is found (post-mortem) in the liver, kidneys, spleen and lymph glands in the majority of cases of typhoid fever by Eberth, Koch and Friedlander, and larger bacilli in the vicinity of the intestinal ulcers and in the larynx and lungs by Klebs. Maragliano asserts the presence of both varieties in blood drawn by a hypodermic syringe from the spleen in fifteen cases intra vitam. It would seem, however, that he protests too much, for even post-mortem only Eberth's, never Klebs' bacilli, are found in the spleen. It is, however, doubtful whether these bacilli are necessarily and intimately connected with typhoid fever, as they are not constant, and only occur in localities where an immigration of putrefactive bacilli can easily take place from the bowels, which in typhoid fever contain innumerable numbers of microbes, and whose mucous membrane in this disease severely sloughs and becomes necrosed at Peyer's glands. Other observers have, however, found other micro-organisms, but their observations and experimentations have proven to be untrustworthy. Eberth has never found his bacillus in any other disease. Although facts point strongly to the parasitic origin of this disease, and although Koch is of the opinion that the bacillus of Eberth is the only one which has a specific relation to typhoid fever, yet the conclusion, of cause and effect cannot yet be accepted until demonstrated by cultivation and inoculation experiments. As yet such demonstration has not been conclusively offered.

Endocarditis Ulcerosa.—This affection, so frequent in the course of pyæmia, is characterized by the presence of micrococci, according to Heiberg, Maier, Eberth, Koster, Klebs, etc., but whether as only an accompaniment or as specific causes, has not yet been positively determined.

Variola.—Variola is supposed by Coze, Feltz and others to be due to a characteristic bacterium, while Luginbuhl, Weigert and others attribute it to a micrococcus. Micrococcus is also found in vaccine lymph analogous in every point of view to those of variola. Cohn considers the micrococci of variola and vaccinia as two races of the same species. Positive inoculation experiments are still wanting, unless we accept the report of Dr. Queist, of Russia, who affirms the successful cultivation and inoculation of vaccine virus—the micrococci developing into bacilli, and these again into micrococci. Toussaint also claims a bacillus as the specific cause of sheep-pox, and Lagrolet, Jolyet and Delage—after cultivations and inoculations—affirm the parasitic origin of picote or variola in pigeons.

Whooping-Cough.—Burger has regularly found in the expectoration in this disease peculiar bacilli, which he has never found elsewhere. Letzerich's causal fungus is now discredited by every one. Poulet found peculiar bacteria in the sputum, Letzerich a bacterium, and Tschamer, of Gratz, a microphyte similar to the black mould of orange peel. These different organisms are supposed to be causative, but the only conclusion, as yet, to be drawn from the experiments yet performed, is that the *materies morbi*, be it bacillus or be it what it may, lives on the surface of the epithelium, and does not get into the blood. It has not as yet been conclusively isolated.

Yellow Fever.—Dr. Sternberg, in his report of the Havana Yellow Fever Commission, states that he could find no micro-organisms which could be considered in a causal relation to this disease. Dr. Carmona, of Mexico, however, claims the discovery of a yellow fever germ in the blood, black vomit and urine of yellow fever patients. This fungus of many forms and many colors he calls peronospera lutea. Sternberg could find nothing corresponding to this organism in his examinations, and thinks there must have been accidental contamination of Carmona's specimens with some foreign atmospheric germs. Dr. Domingos Freire, of Brazil, finds in the blood of yellow fever patients a germ, which he considers specific, and calls cyptococcus xanthogenicus. He has performed various inoculations and experiments with materials containing this cryptococcus, with the result of reproducing the germ, and, as he supposes, the same disease. He does not, however, report the successful inoculation with a pure culture of his cryptococcus. Hineman, of Vera Cruz, has also failed to find in the blood before death Carmona's peronospera lutea and Freiere's cryptococcus xanthogenicus. M. Bouley recently, at the French Academy of Sciences in Paris, presented a note from Brazil on yellow fever, stating the microbe was a cryptococcus found in the blood, black vomit and dejections. A large number of inoculations with a mitigated virus appear to have been successfully made, and all of the persons (over five hundred) so treated escaped the disease. M. Bouley accepts the facts of the vaccination and its protective power, but doubts the characters of the microbe. Messrs. Mozly and Harrison have recently made experiments, which have served to throw discredit on the conclusions of Dr. Domingos Freire, of Rio Janeiro, in regard to his pathogenetic element of yellow fever. They contend he has mistaken septicæmia in the lower animals for yellow fever, which confirms the observations of the Havana Yellow Fever Commission of the National Board of Health. Sternberg states that no satisfactory evidence has yet been obtained that any one of the lower animals is susceptible to yellow fever, and therefore, as a test of the specific pathogenic power of a suspected organism, a pure culture must be administered to man himself. Thus the matter stands, and requires further careful examination.

Mumps.—Capitan, Chanin, Bouchard, Nether and Boinet have found a characteristic microbe in the blood and saliva of mumps patients. Boinet cultivated them, but his inoculations were not very successful.

Beri-beri.—Beri-beri, an obscure disease introduced from India into Brazil, has been studied by Dr. De Lærada, of South America, with the result of isolating, cultivating and successfully inoculating a specific bacillus. The bacilli are found in the blood, and especially in the muscles and spinal medulla.

Rinderpest.—Dr. Andrew Smart, of Edinburgh, published a description of micro-organisms, with drawings, found in the disease called rinderpest in 1865. This is claimed to be the first demonstration of bacteria in living tissues. Micrococci have also been found by Klebs in the lymphatic glands, and by Semmer in the lymphatic glands and blood. Their causal relation is not positively established.

Surgical Lesions.—The good effects observed in lesions where the access and multiplication of germs are prevented by continuity of skin, cleanliness, antiseptical and germicidal applications—in other words, by aseptical (surgically clean) treatment and the demonstration of the important factorage of bacterial growths in the production of local and constitutional symptoms, when introduced, retained and permitted to multiply—in other words, when the wound is septic, open up a wide field for further research. The subject is too comprehensive to admit of more than the most cursory examination at the present time.

The evil effects of putrefactive bacteria, which are not identical, but distinct from septicæmic bacteria, have long been recognized, and in wounds where micrococci only are present, we have decomposition without odor, but the development of the bacilli is always accompanied with odor more or less fetid.

Septicæmia is a collective name for processes more or less similar, but etiologically distinct—at least in certain of the lower animals—any one of certain unorganized substances, any one of certain bacteria (at least three in the mouse) may induce characteristic symptoms. Septicæmia and aseptic fever as well may also be due to the absorption of different ferments, especially fibrin ferment, etc. Various forms of infectious septicæmia and pyæmia, identical in clinical and anatomical appearances with the same diseases in man, have been produced by different observers, Koch, Davaine, etc., in different animals, by the inoculation of putrid and other substances, and the results attributed, directly or indirectly, with more or less certainty, to different micro-organisms contained therein and reproduced in the animals so infected. Amongst the diseases so produced may be mentioned—

Septicæmia.—Koch's artificial production of this disease is accepted as due in mice to a bacillus, and in rabbits to bacteria, pure-culture inoculations having been successfully performed by Koch, Saffky and Loffler. Septicæmia has also been produced in rabbits by Sternberg by saliva inoculations, and the result proven by pure culture inoculations to be due to a micrococcus present in the normal mixed secretions of the mouth. This microocccus is found to correspond to Pasteur's microbe, which he at first thought was the cause of hydrophobia.

Pyæmia.—Koch has produced this disease in rabbits artificially, and finds a micro-coccus constantly associated. Semmer has confirmed his results. Although these micrococci have never been artificially cultivated, there is hardly any doubt of their causative relations.

Spreading Abscess.—Koch has caused spreading abscess in rabbits by injecting putrid blood, and certain associated micrococci are considered the specific agents. Reasoning by analogy, septicæmia and pyæmia in the human being are supposed to be due to the vital activity of micro-organisms. There are strong arguments in favor of this supposition, although pure-culture inoculations have not yet been practised. The result of the observations and experiments of Ogston, however, has led him to conclude that septicæmia, pyæmia and septic pyæmia are one and the same disease, and that their sole and invariable cause is micrococcal poisoning. Experimental proof is also constantly accumulating to show that the inflammatory and other changes which ensue in wounds, often producing the most serious and dangerous consequences, are the results, with few exceptions, of the vital action of micro-organisms. Then, too, the proof that micrococci are the essential cause of suppuration, is rendered very strong by the results of inoculation, pus devoid of micro-organisms being inocuous, while that containing micrococci, even in minute doses of a minim or more, invariably occasions well-marked trouble. Ogston asserts that all suppuration is produced by microbes, except in cases of burns and blisters. None also are found in chronic abscesses. Ogston has therefore, by pure culture inoculation, established the role of the micrococcus of pus and acute abscesses. The most valuable of recent contributions upon the relation of micrococci to wounds, abscesses and septic processes is the report of Mr. Watson Cheyne to the Scientific Grants Committee, from which we gather—

1. There are various kinds of micrococci found in wounds treated aseptically, differing materially from each other in their effects on animals.

2. The effects of these micrococci on rabbits and men were not similar.

3. The kidney is apparently an important excretory organ for organisms.

4. Organisms not capable of growing in the blood may yet cause serious effects by growing in the excretory canals.

5. Suppuration is not always due to micrococci, but may be caused by mechanical or chemical irritants, such as croton oil, etc.

6. Micrococci are always present in acute abscesses and are probably their cause.

7. In some cases the micrococci are the primary cause of inflammation and suppuration, as in pyæmic abscesses; generally, however, they begin to act after inflammation has been previously induced by an injury, by the absorption of chemically irritating substances from wounds by cold, etc.

8. There are several different kinds of micrococci associated with suppuration.

9. Micrococci cause suppuration by the production of a chemically irritating substance, which, if applied to the tissues in a concentrated form, causes necrosis of the tissue, but, if more dilute, causes inflammation and suppuration.

10. There is no reason for denying the existence of antiseptic suppuration.

11. Tension may also cause suppuration, but it is perhaps most frequently aided by the growth of micrococci. It is also probable that the products of inflammation are themselves irritating and capable of exciting or keeping up inflammation.

12. The micro-organisms of septicæmia, of pyæmia and erysipelas are different from one another and from those of abscesses. In erysipelas the micrococci grow in the lymphatic spaces; in pyæmia they grow in the blood to form colonies and emboli; in septicæmia

they may only grow locally, the symptoms being due to the absorption of their ptomaines; or, if they grow in the blood, they do not form colonies, and emboli. Septicæmia may also be due to other organisms besides micrococci.

13. There are no facts to support the view that it is the same micrococcus which under different conditions causes these various diseases.

Although this does not begin to exhaust the list of diseases which have been studied microscopically and experimentally with reference to the germ theory, yet enough has been recited above to give you a fair idea of the immense amount of careful work which has been bestowed upon this wide, and as yet greatly unknown field of etiological research and the vast amount of positive information and demonstration springing therefrom. I will not tax your patience with the recital of further details, for I fear I have already wearied you with the length of this paper. The germ theory rests upon a solid basis. Much, however, yet remains to be done, and if this essay shall stimulate any one in the pursuit of this all-absorbing and important branch of study, I should feel amply repaid for my feeble effort in its behalf. When a germ shall be isolated for every disease and an efficient germicide, which will prove destructive to each germ, and yet is harmless for the human system, or, in other words, which is not a homicide, shall be discovered, etiology and practical medicine will indeed be upon a substantial basis. Enough has already been done to encourage the belief that such will be the case in the not very remote future.

In conclusion, with thanks for your kind indulgence, I would say, in the language of another: "Although I have omitted much of real value, the time has passed when the critic of the germ theory of disease can content himself with captious remarks upon fashions in medicine, deluded followers of speculative theories, etc. As well might the geographer deny the existence of Africa because a topographical survey had not been made of its interior. All along the border line of the unknown are enthusiastic explorers engaged in the difficult and dangerous work of investigation with a heroism and determined fortitude of a Livingstone or a Stanley."

(Concluded.)

ADDRESS OF DR. J. W. JONES, PRESIDENT NORTH CAROLINA BOARD OF HEALTH.

(Read before the Conjoint Session, held on the 20th May, in Durham.)

The ancients, not only the Greeks and Romans, but the Barbarians, assigned the healing art to a divine origin.

In classical mythology health is represented in the person of Hygeine, the daughter of Æsculapius, and worshiped at Athens, Corinth, Argos and Rome.

In the works of art she is usually represented as supporting a serpent on a staff and giving him water from her own hand—a beautiful symbol of preventive medicine—peace and good will to men.

For ages the investigation of the laws of health and disease was prosecuted by the medical profession under the head of "Causes of Disease," but in the last fifty years it has entered upon the higher and broader sphere of prevention of disease and the prolongation of life under the head of preventive or State medicine, embracing a study of the laws of health and disease, and the conditions that tend to impair health and bring on premature death, together with rules of perfect culture of body, mind and soul.

On the sixth day God created man in his own image and likeness. Male and female created He them. He put them in a garden in Eden, a paradise of physical pleasure, "where existence was a joy, where it was delightful to think, feel, see, hear and be; in which they were to discharge the duties of life, resist the temptations of evil, and go on in the journey of life, getting and giving good." But the happy pair yielded to temptation, and with rash hand in an evil hour our mother Eve

> "Forth reaching to the fruit she plucked, she ate ;
> Earth felt the wound, and nature from her seat
> Sighing through all her works, gave signs of woe—
> That all was lost."

"The immortal took on mortality—the incorruptible frame corruption." He had died in his first estate. He was pathological in his new.

The moral demands of violated law were graciously met by the death and sufferings of Christ. The demands of the physical law could not be cancelled.

Nature is implacable, it knows no word of mercy. Displace but one of her smallest parts by spiritual emotion, mental or physical action, and all surrounding matter, extending to the limits of the universe, is disturbed. Unalterable, because no reaction restores disturbed matter to its former place or condition, and as enduring as matter, which is thought to be indestructible, and consequently, as far as we can comprehend, without end. But there are laws in mercy given that govern matter as unerringly out of place as those that govern it in place.

The meteor that shoots across our horizon moves with no less fixed laws than those that hold the North Star in its place.

It is the work of science to observe and study nature as it is presented to us in its varied states and combinations, and to disclose to us the laws imposed on it by the Creator.

Every organized body exhibits a series of phenomena called life—vitality—the essentials of which are the elements of its structure and a certain range of temperature. It is characterized by an origin, successive development and growth, the process of nutrition and assimilation and the combustion of effete particles of structure—the disturbance of any one of which is disease, the cessation, death.

Life is a resultant of certain combinations of matter and forms, varying as to the matter, or group of matter, and the spirit and the law imposed by the Creator in the beginning.

If matter is indestructible and spirit eternal, death is only a change in the state or condition of matter or spirit making up the combination. In man it may be either a change in some of his material parts, making a partial death, or in all of them; or a separation of his spirit from his body, or an estrangement of the spirit from the Spirit of his God, who is a Spirit. In all of these cases the whole man suffers a corresponding change, his material body taking on new forms and functions, or falling into decay to again enter into combination fit for other uses and places—matter making her eternal rounds and the spirit returning to God who gave it.

All the phenomena of life indicate that it is one of continual progression:

First, of growth, then of decline, with manner of living, food, pleasure, pains and forms of disease corresponding to each of these periods. In early life the tissues are soft. As age comes on they harden, together with other changes in weight, height, appearance of skin and hair, the ability to endure and the susceptibility of the senses. All these changes occur in every case. The rapidity of the succession may be varied by many circumstances, some inherent and some exterior.

The natural division of the animal kingdom has been variously classified, each class presenting marked characteristics, as length and habits of life, distinctive features, shapes, sizes and color.

The fauna and flora show that while the animal and vegetable world have undergone many changes, the same law of proportions has prevailed in all the ages, before and after the flood, in that every part of them and period of their life bears a fixed proportion to each other part and time of life. The length of life of the mammalia, to which class man belongs, is estimated at about four or five times the time of his growth. Accordingly this law, which gives us an approximate starting point in the calculation of human life, is substantially the one adopted by both the physiologist and the naturalist.

The length of man's natural life is about 80 or 100 years. Most men die of disease, but few of old age. From his very nature man ought to live 80 or 100 years. If so, then it is his duty to obey the laws of life and health, and any course of life that will induce disease and bring on premature death is unlawful and sinful. Health and long life are motives appealed to by the sacred writers. Solomon says: "The fear of the Lord prolongeth days, but the years of the wicked shall be shortened."

The Mosaic law everywhere enforces the laws of health. Christianity teaches us to honor God by honoring our bodies, and so keep them in this world, that in the world to come they may be bodies glorified, fit for glorified spirits. It enforces purity, cleanliness, temperance; and as soon as these find entrance into the squalid and vicious houses, they begin to refine and start the inmates in a new line, which manifests itself without in results at which the sanitarian is aiming.

To live through all the periods of life, to reach the highest point of organic energy, exhaust all man-forces, require rare physical, mental and moral combinations, with surroundings in perfect keeping with the organism, with the growth and habits in full and complete obedience to all the pertaining laws, and without any extraneous inferring causes. Healthy parentage, sound body, good food, pure air, clean water, the proper clothes to wear and houses to live in, together with "the love of God, as it is the sovereign remedy for all miseries, so in particular it effectually prevents the bodily disorders that the passions introduce by keeping the passions themselves within due bounds, and by the unspeakable joy and perfect calm serenity and tranquility it gives the mind, it becomes the most powerful of all the means of health and long life."

How to live long and healthy is embraced by M. Revielle, of Paris, in four general rules of living:

1. How to live.
2. Know thyself.
3. Arrange wisely the habits of life.
4. Combat disease in its beginning.

Canarvo, an Italian of noble birth, noted alike for his learning and age, in early youth wandered from his father's house and prostituted himself till life was despaired of by himself and his physician. At the age of 25 he came to himself, and by a properly regulated life lived to be 100 years old. He gives this one universal rule:

"Properly protected from excessive cold and heat, live soberly and temperately."

In this extraordinary case we learn how much abuse our frames can endure and to what a remarkable extent it can be restored by a properly ordered course of life.

What we have said refers mainly to individual life. Man cannot live alone; he lives with his fellow. With a common origin, he is heir to the common ills of the race—its pleasures, pains, weals and woes. The clean and unclean must drink the same water, the good and the bad must breathe the same air. So his condition in society is one of disorder and distress, and when left to individual effort for aid, well nigh helpless. The work for his relief must be one of the community, in which all the people are joined and the State aids.

So deeply is this felt by the good men of all shades of belief and creeds, that the efforts for his relief have become a common work. Religion and science are not twin, but one in their labors for softening the ills of life and preventing sickness and pain. Art, too, has joined her queenly sisters, with her apparatus of enlarged investigation and extended vision and appliances to make labor lighter, rest easier and life healthier, happier and longer.

The work has been divided into various fields of labor, that it may be done more thoroughly and by expert hands and thinkers. Our field of labor in this great work is that of "healing of the nations," and happily for our race, the intelligence and virtue of the present generation have been directed to sanitary reform. Medical associations and boards of health have been formed in all Christian countries.

To-day we are assembled in conjoint session of the North Carolina Medical Society and Board of Health, to consider the things best for the health of our people, whose mission it is to be a general physician and guardian to the people, whose duty it is to investigate intelligently, and to speak with authority on all the circumstances that in any way affect human life and the entire record of disease, their causes, concomitants and tendencies, both immediate and remote; on the physical condition of the State, as it relates to health and disease; on the drainage, winds, temperature, snow-fall, forest growth and water; to study the structure of society and the social relations of man and the duties growing out of these relations; to investigate the principles and laws affecting the welfare of man in society, the momentous question of his health, his wealth and his happiness. Our objects are broad, our purposes high enough so to appeal to the deepest sympathy and command, the fullest efforts and confidence of citizens, scientists, christians and states.

You will permit me to say that, while we do need better environment, better air, food, water and drainage, that is not man's greatest need. The greatest needs of man are moral and intellectual needs. The strongest forces for his elevation are his moral forces. They must be appealed to to arouse his dormant self-respect, deadened sensibilities and flagging energies. There must be begotten in him a hope for better things and an assurance that for his labors for a higher and better life there is a sure reward, in order to stir him to do for himself things that he alone can do.

> "The fault, dear Brutus, is not in our stars,
> But in ourselves, that we are underlings."

In England sanitary laws are best executed, and from her official reports we make extracts showing what sanitary laws are capable of in the prevention of disease and premature death.

The reform is in its infancy, and shows nearer what can be done than what has been done. Even now the plagues have ceased.

Cholera, yellow fever, typhus fever and leprosy have come under the control of sanitary laws. Many diseases are prevented altogether. From the official report of Mr. Chadwish, the chief officer of the English Board of Health, it is shown that in ten years, from 1871 to 1881, after work of thirty years, there was a reduction, by sanitary regulation, in the death rate of England and Wales of 4½ per cent., from which it was estimated that about a quarter of a million of people were saved from death, and one-half of the whole population were saved from serious, though not fatal, sickness, with a money-saving of $3,000,000 in medical treatment and other expenses, not including burial expenses and loss of time. Three-fourths of this reduction in death rates are under the head of contagious diseases, which were controlled or prevented by isolation and three-eighths under the head of fevers, which were controlled or prevented by a better drainage, pure air and clean water.

In London the death rate among the wages classes show a gain of sixteen per thousand in the ventilated modern buildings, over thirty per thousand in the old, common dwellings. The same veteran official estimates that the neglect of sanitary laws costs England annually more than the interest on the British debt, which is £84,000,000.

In the military service the effects of the sanitary reform is better seen, because under strict army discipline.

The first army that was sent out to the Crimea was lost by sickness; "the one sent to take its place," said the war minister, "was saved by the sanitary commission that went with it, which in three months reduced the death rate of the Crimean army from a plague rate to the ordinary health rate.

In India the ordinary death rate was 69 per 1,000. From 1869 to 1878 it was reduced to 20.41, a gain of 48.59, or about 23.50 men's lives saved and 28,200 cases of sickness. In the home service it was reduced from 18 per 1,000 to 7.55 per 1,000, against 10.55.

In our own country, as well as in all others where sanitary law has been enforced, the same general results have been seen, and in many cases much more encouraging ones.

For the State Board of Health to do its full work prompt reports must be made by county superintendents. In order that county superintendents may do their full work, they must have reports from the physicians in their county, together with the co-operation of the civil officers.

The whole of society must become interested and co-operative—the Governor, the judges, the county, town and city authorities.

As this great reform has begun with the medical profession, so it must be carried on by it. We must instruct the people, awaken sentiment in its favor, and have the law executed. And, gentlemen, like all other reforms, it must have its sacrificial votaries.

REDUCTION AND TREATMENT OF DISLOCATION OF HIP JOINT.

By W. T. Ennett, M.D., Burgaw.

(Presented to the Medical Society of North Carolina at its Thirty-second Annual Meeting in Durham.)

This being the second case of dislocation of hip joint in my private practice, and one presenting some peculiarities of interest to me, I have determined to report it.

On the 22d of September (1884) Mr. James H. Moore, of Burgaw, fell from a scaffold at the roof of his house. Being in Wilmington at the time, I was telegraphed for. Arriving here about 9 or 10 o'clock, I immediately examined him as closely as possible without an anæsthetic. Thinking there was trouble at the hip joint, I at once chloroformed him and made a thorough examination. The acetabulum being of immense depth, and the head of femur being long, I readily completed my hasty examination by finding head of femur upwards and backwards upon dorsal surface of illium resting in fossa of bone. Hip deformed. The limb 1½ inches shorter than the sound limb. The knee a little above and in advance of the other. The thigh bent on the pelvis. All attempts at extending foot were unavailing. Any attempt to rotate or abduct caused the most intense pain.

Without assistance and proper implements, I provided a bandage, and with manipulation finally reduced the dislocation, and found the soft part very much injured. Considerable effusion of blood around the joint. I feared a long, stubborn case, which proved to be true; but time brought all things right with the exception of a little shortening. I did not like that, but examined hip and leg more than once, and found no deformity.

About the 1st of March (six months after the accident) I still found a little shortening. I consulted several physicians, among them our distinguished associates, Drs. Bahnson, of Winston, and Thomas F. Wood, of Wilmington. They both thought the tearing or wasting away of the cotoloid cartilidge caused by the effusion around the joint, and the patient remaining in bed so long after reduction, without any exercise at all, caused a contraction of muscles amounting to anchylosis, which would take sometime to overcome. It now seems to me such is the case, as I have within a few days examined it and measured it, and find a difference of about 3 inches within a month.

I visited him frequently, looking after his general health, as well as to his wound.

ADDENDA.

Since our meeting, on examination I find the limb only ½ inch shorter, gradually extending, and I predict in a few months the limb will be natural and the same length as before. Some cause of shortening, I think, is in the knee-joint, that being a little stiff, but is gradually disappearing. When the case is entirely cured I would like to give a more extended report, stating some facts of the case I have withheld purposely.

NC Med J (O.S.) 16: 148-152, #3, Sept 1885.

EXPERIMENTS ON A CRIMINAL.*

By M. M. P. Regnard and P. Loye, of Paris.

(*Le Progrès Medical*, July 18, 1885.)

The studies which physiologists can make of the bodies of criminals are quite often rendered fruitless by the impossibility of receiving the body immediately after the execution. Complying with certain superannuated formalities uses up valuable time. It is nearly an hour after decapitation before experimenters can commence a study the interest in which is then much diminished. That which is not allowable in Paris, is, on the other hand, possible in the province ; so, thanks to the great obligingness of the authorities of the city of Troy, we were able, on the 2d of July last, to enjoy some conditions of experimenting which for a long time had not been so advantageously furnished.

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* Translation by C. T. Peckham, M.D., Passed Assistant Surgeon, M. H. S.

Our intention was to make a certain number of physiological researches, the plan of which had been suggested by M. Paul Bert, and, at the same time, observe the first effects which follow decapitation in man. This last point has always had the privilege of exciting the curiosity, not only of physiologists, but also of psychologists ; the latter have always asked if conscious life persists after the separation of the head from the trunk, or if death takes place at the instant of decapitation. We acknowledge that this preoccupation was not ours, yet the facts which we have collected will permit us to form some opinions on this contested point.

Placed at first at the very place of execution, then in the conveyance which bore the cadaver to the hospital, we were able to begin our researches in less than a minuate after the decapitation. This is what we observed :

1. At the moment when the condemned was placed upon the block (instrument of torture) he was very probably in syncope ; he remained wholly inert, the eyes staring and the mouth open. At the precise instant in which the knife severed the head, we saw with the greatest distinctness a general contraction of the muscles of the face ; the horrid grimace which resulted from it ought, without doubt, to be connected rather with the direct excitation than with a psychical phenomenon. Was this contraction accompanied by an analogous phenomenon on the part of the body ? We were not able to recognize it on account of the thongs which confined the condemned very closely. The traditional basket had been replaced by the criminal's bier : so the cadaver was delivered to us without manipulation in less than a minute after decapitation in the executioner's wagon. The first fact which impressed us was the complete inertia in which it seemed to be : the face was calm, the features composed and the mouth and eyes closed. We were far from those disordered movements which many authors attribute to the cadaver's of criminals, while referring, perhaps, to what one refers in certain animals (ducks, cocks, etc.) when they are killed by decapitation.

2. We attempt to raise the body : it is in a state of complete

contraction, of the extensors as well as of the flexors. On raising the legs, one raised the whole body ; it is impossible to flex the knees, or to flex the thigh on the pelvis. Something analogous seemed to exist in the head. The eyelids, which were widely open at the moment of the fall of the knife, are convulsively closed ; it is very difficult for us to hold them open for the experiments which are to follow. This condition of general contraction lasted two or three minutes (a great precision in measurement is difficult to obtain in a carriage jumping about with the gallop of the horses).

3. Do the reflexes persist after decapitation ? After rigidity had ceased we pinched the skin of the body, we tickled the feet without causing the least movement ; the patellar reflex has completely disappeared. We excited strongly the surface of the eye without leading to the slightest contraction of the lids or muscles of the face. Strong irritation of the spinal cord at the point of section gives no result. The pupil, fairly dilated, scarcely contracts at the approach of strong light. Three minutes after decapitation we are able to observe, not only no spontaneous movement, but even no reflex ; only the pupil contracts a little in the presence of light.

We arrived at the hospital, where a ward for experiments had been carefully prepared by Dr. Vanthier, physician in chief of Hotel Dieu of Troy. The head of the criminal was given to Mm. Lalorde, Rondeau and Gley. We confined our experiments exclusively to the trunk.

4. Our first experiment was to determine the action which the pneumogastric nerve exercises over pulmonary contractility. The researches, so contested of Williams, so well repeated and carefully determined by M. Paul Bert, showed that in the dog the muscular fibres of Reissessir, circularly arranged about the bronchi, have the vagus nerve for agents of innervation. Unfortunately, the pneumogastric of the dog is intimately connected with the sympathetic : so that it was difficult to say exactly to which of the two nerves one ought to attribute the influence over the muscles of the lungs. On the other hand, in man a separation exists, and the experiment which we are going to make will permit us to solve the question.

We made an opening into both pleuræ in order to allow the air to penetrate freely. The expertment would be of no value if the pulmonary elasticity is complely satisfied. A water differential manometer is introduced into the trachea and firmly fixed upon it ;

then the pneumogastrics are excited by an induced current. Immediately we observe the rise of the liquid in the manometer—slow rise, followed by a very slow, uniform descent, as soon as the current is interrupted. This experiment, a trifle slow in preparation on account of the condition of the wound, was made in 82 minutes after decapitation. It shows that it is indeed to the action of the pneumogastric that pulmonary contractility is due.

5. Later (60 minutes), and after the opening of the thorax, we placed one of the poles of the current upon the pulmonary surface, and the other upon the trachea in the mediastinum; we excited thus the pulmonary tissue directly; the fibres of Reissessir contracted, and the liquid slowly ascended in the tracheal manometer.

6. Forty-five minutes after decapitation we opened the abdomen of the criminal. We did not observe any spontaneous movement of the intestines or stomach; the contact of air did not any longer lead to any. We excited the vagus nerves; immediately we observed very evident movement of the stomach and intestines, movements extending even to the transverse colon. According to Longet, this motor action for the stomach would be produced only when the stomachal cavity is full of food; here the stomach was in a condition of absolute vacuity.

7. We open the stomach; it is completely empty. A strong alcoholic odor escaped, the condemned having drunk a little brandy when going to the block. We excited over the pneumogastrics; the stomachic mucous became strongly wrinkled and folded. At the same time we saw spring up, almost uniformly over the whole surface, drops of gastric juice. It is known that authors are far from being in agreement upon the innervation of the stomachic secretion. Our experiment was completed in 45 minutes after execution.

8. M. Demoulin, assistant in anatomy of the faculty, dissected the dorsal and palmar enteroses and lumbricoidi muscles. The induced current being sent successively into the different muscles, we observe that their action is precisely that which had been attributed to them by Dudemee, of Bologna.

To sum up, then, we insist upon the following facts we observed: Sudden and general contraction at the moment of excitation of the cord by passage of the knife, contraction which lasts 2–3 minutes; disappearance of reflexes, even the grossest; evident action of the pneumogastric upon pulmonary contractility ; evident rôle of the fibres of Reissessir in this contractility ; innervation of the movements of the stomach and intestines, due to the pneumogastric ; well-marked influence of the vagus nerve over the stomachal secretion ; finally, verification of the mechanism of the muscles of the hand.

(1) These experiments do not bring to light unexpected facts, but they confirm those which one has seen in animals and by reasoning had extended to man. On the other hand, the first part of our researches may perhaps reassure psychologists who doubt the persistence of conscious life after [execution of the pain of death.]

(2) A needle put into the heart by M. Lalorde showed 51 beats twelve minutes after execution. The beatings disappeared at the twentieth moment. At the autopsy the heart was found completely relaxed ; the cavities contained some clots.

SELECTED PAPERS.

DISEASES OF CHILDREN.

SPECIAL THERAPEUTICS OF ECZEMA.

1. A fatty condition of the skin has already been referred to as predisposing to eczema. In such cases it is of the greatest importance to regulate the diet. All starchy and saccharine foods are to be avoided, and the diet should consist as much as possible of milk, cream, eggs, broth and meat. In these cases *massage* is frequently of service, the hand lubricated with vaselin is used to shampoo the body and limbs, passing but lightly on the eczematous parts. By this means the circulation of blood and lymph is promoted. Alkaline baths may also be used, two to four ounces of common soda or potash being added to the child's bath.

In the contracted and anæmic condition of skin we have as yet but few internal or external remedies. Liq. arsenicalis in one to six drops twice a day may be given. Pilocarpin hydrochlorate may be given, 1-20th of a grain in syrup at night to produce perspiration, the child being well wrapped up to prevent chill. Externally, tarry, sulphur, or naphthol preparations take the highest place. For example, one of the following ointments may be applied at night: Picis liq. 10, sodæ sulpho-ichthyol 5, cretæ alb. 15, adipis 120. Or naphthol, sulphur præcip. *ana* 5, ung. zinci 100. Next morning the ointment is to be carefully washed off with warm water and soap, the parts carefully dried, and some "paste" suited to the condition to be applied during the day. If the eczema is raw or wet, the mild drying preparations are most suitable, such as the zinc-ichthyol gelatine jelly. If the eczema is dry and indolent, and the itching considerable, the stronger preparations are necessary, as for example: zinc oxidi, picis liq. gelatin, adipis *ana* 10; glycerin 80; or amyl 10, glycerin, zinc oxidi *ana* 20; acidi salicylici 3, aquæ 100. Mix and boil down to 100 parts. It is not necessary to wash off the remains of the paste or gelatin preparation applied during the day, before applying the evening ointment.

In the treatment of the intertrigines, due to the accumulations of sweat and consequent fretting of the skin at the flexures about the neck, groin or axilla, it must be borne in mind that too much washing with soap and water is harmful. The folds where the surfaces of skin come in contact are to be cleansed with a sponge moistened with the liniment of lime water and oil, and then some drying powder applied. In the worse cases the flexures may be dabbed with a lotion containing sulpho-ichthyol (1 p. c.), or zinc sulpho-carb, or tannin, and then powdered with zinc oxide, calamine, bismuth subnitr., or tannin. It may be necessary to keep the parts from contact by means of zinc or lint paste.

The treatment of the eczemas due to the hypersecretion of neighboring mucous membranes, necessarily in part depends on the cure of the primary lesion, as, for instance, operation for ectropion, cessation of a diarrhœa or otorrhœa. In some of these local eczemas, especially of the nose and ear, the zinc salbenmulls, or lead pflastermulls are useful applications for protecting the skin from contact with the secretions. The author describes an ingenious arrangement for cases of ozæna with eczema of the skin about the nares, consisting of a paper tube surrounded by zinc salbenmull, which he inserts into the anterior nares, thus keeping the openings free for the admission of air, and securing a continuous contact of application to the affected parts.

2. The treatment of eczemas originating in physical causes, such as exposure to the sun, over-treatment by ointments or baths, or from friction or scratching, is comparatively simple, inasmuch as it resolves itself into the avoidance of the cause and in the application of external remedies. Eczemas produced by exposure to the sun's rays, on the face and hands, are best treated by the application of zinc salbenmulls during the night; those produced artificially by chemical agents, by the application of the liniment of lime water and oil, to be followed by a drying powder. The best treatment for itching is the removal of the eczema which produces it; alkaline solutions, containing tar, salicylic acid, lotio plumbi, Peruvian balsam, zinc, sulpho-carb. Camphor and chloral may be used to allay irritation.

Eczemas produced by pediculi must necessarily be treated by the well-known anti-parasitic remedies, as petroleum, balsam of Peru, storax and ichthyol preparations. Eczemas caused by vegetable parasites, as the eczema flexuarum, psoriatiforme, and seborrhoicum (see pp. 66–67) are favorably influenced by arsenic, and by external applications containing such anti-parasiticides as mercury, salicylic acid, ichthyol and tar. A modification of Wilkinson's ointment is of service, such as picis liq., sulphur *ana* 10; cretæ alb., 20; saponis virid., adipis *ana* 30. More recently a 20–30 p. c. resorcin-vaseline ointment has been used with success. In both eczema flexuarum and psoriatiforme zinc-sublimate-pflastermull may be applied; in mild cases, solutions of zinc sulpho-carbolate (1 p. c.) or corrosive sublimate (1–2 p. c.) For eczema seborrhoicum, the sulphur-containing remedies answer best, as zinc paste or glycerine jelly, with 5–10 p. c. of precipitated sulphur. Eczema bullosum or scrophulosum must be treated both internally and externally with cod-liver oil; in the latter case combined with sapo viridis. Red precipitate ointment also answers very well. In strong irritation of the skin antimony may be given internally, and in glandular swelling sulphide of calcium.

The paratypic eczema (E. hypertrophicum verrucosum) of older children, if circumscribed, may be treated with zinc, tar, corrosive sublimate, pflastermull, or by the following ointment: acid. salicylic, saponis virid., *ana* 10, adipis 30.

3. Eczemas of nervous origins, with the exception of the milder cases, require internal as well as external treatment. In the herpes-like papular eczemas due to dentition, the author employs his zinc-ichthyol jelly (p. 163) externally, and small doses of calomel internally; when the eruption is universal, weak lotions of tar, or ichthyol, or tar soap may be used. Here, also, baths, containing sulphur and alkalies, are useful, to be followed by applications of zinc pastes or zinc salbenmull.

In lichen urticatus the wheals or papules may be dabbed with salammoniac in spirit and water, or diluted belladonna tincture (1–10), and then some drying powder applied. Lotions, containing chloral, zinc oxide or calamine are useful. Calomel may be given internally. In the most severe cases of papular eczema with contraction of the skin, the following ointment may be applied at night: Picis liq. 10, natri sulpho-ichthyol or sulphur. præcip. 5, cretæ 20, adipis 250. Later on, sulphur præcip., naphtali, *ana* 5, zinc. oxid. gelatin., adipis, *ana* 10, glycerin. 75. Or picis liq. 10, natri sulpho-ichthyol 5, zinc. oxid., gelatin., adipis *ana* 20, glycerin. 125. Evening perspirations produced by pilocarpine are useful; as also are sulpho-alkaline baths. Arsenic is of secondary importance; it is, however, mostly indicated in the papular eczemas of older children with anæmic skins.—*Deutsche Med. Zeit.—Med. Chronicle.*

THE USE OF MERCURIC CHLORIDE IN CHILDBED.

It is about eighteen months since corrosive sublimate began to be freely used in Germany as a disinfectant in childbed, and very numerous reports concerning it have been published in the German journals, and the evidence thus accumulated is enough to enable us to come to some conclusions concerning the value of the method. There have been various objections urged against the use of corrosive sublimate as a puerperal disinfectant, but of these objections there are only two of sufficient moment to be considered. The first of these is the danger of poisoning of attendants or of the sick by the improper use of the solution through mistake. The colorlessness of the solution is, of course, the great source of danger. It can be obviated by adding five grains of the permanganate of potassium or one drop of a concentrated solution of methyl violet to every quart of the mercurial solution. A second objection is the danger of poisoning the patient by the absorption of the metallic salt. All cases of such corrosive sublimate poisoning may be divided into three groups—those in which the symptoms are mild, those in which they are severe, bu in which the patient recovers, and those in which death ensues. In mild cases the manifestation of the poisoning consists in a little diarrhœa, with perhaps some paleness or gray color of the gums, and which is readily controlled by a few doses of opium.

So ar as our reading goes, there have been reported six cases of fatal poisoning, namely, one each by Stadfeldt (*Centralb. f. Gyn.*, 1884, No. 7), Lomer (*ibid.*, No. 14), Winter (*ibid.*, No. 28), Vohtz (*Hospitals Tidenden*, 1884, No. 22), Schwarz (cited by Thorn, *Klin. Vorträger*, No. 250), Thorn (*Klin. Vorträger*, No. 250). The symptoms have been remarkably uniform. There first appears abdominal pain, with tenesmus and diarrhœa ; the discharges, in all cases, sooner or later becoming bloody. Vomiting usually comes on early, and there has also been almost uniformly a violent stomatitis. Great restlessness and anxiety have been prominent, and universally suppression of the urine has taken place before the fatal results which have occurred from collapse. The continuance of the symptoms has been from three to twelve days. Where a postmortem has been obtained, inflammation and ulceration of the intestines, especially the large intestine, have been found. The peculiar degeneration of the renal epithelium, with a deposit of phosphate in the kidneys, which has been shown by Salkowsky and by Prevost to occur in dogs and rabbits poisoned with corrosive sublimate, was noticed in the case reported by Stadfeldt.

In the case reported by Thorn septic peritonitis was found at the autopsy, and it is very doubtful whether death was produced by the corrosive sublimate, especially as the patient died in coma ten days after the use of the poison. In five of the cases intra-uterine irrigation had been practised ; in three of these the strength of the solution was one part in a thousand ; in one, one in seven hundred and fifty. The only case in which vaginal injections alone had been employed is that of Thorn, already spoken of, in which the cause of death remains doubtful.

Of the severe but non-fatal class of cases four instances have been reported, one each by Stenger (*Centralb. f. Gynk.*, 1884, No. 13), Maurer (*ibid.*, No. 17), Elsasser (*ibid.*, No. 29), Thorn (*loc. cit.*) In two of these cases only vaginal irrigation was practised. In about 12 quarts of the solution (one part in a thousand) were used. In a second case, 500 grammes, or only 1 pint of the solution of the strength of one part in two thousand, was injected. In a third case, that of Elsasser, besides the twice-a-day use of the uterine irrigation with a one per thousand solution, 30 grammes of blue ointment were used externally, and about 18 grains of calomel internally. Poisoning came on the fourteenth day, ending in recovery after an illness of many weeks.

In order to determine the percentage of bad results by the use of the corrosive sublimate, it is essential to know the number of times which it has been injected. This, of course, cannot be accurately done, but in the *Deutsche Med. Zeitung*, May 18, 1885, Dr. K. Jaffé has collected ten thousand nine hundred and eighty reported cases of childbirth in which the corrosive sublimate has been employed. When it is remembered that a case of poisoning is almost sure to be reported, and that the great majority of practitioners do not put on record the instances in which they have employed the corrosive sublimate without poisoning, it will be seen that the percentage of poisoning must be very low. It is probably less than one in two thousand cases, the records showing one in eleven hundred cases. Further, when all those cases are removed in which intra-uterine irrigation was practised, the mortality from poisoning falls almost to zero. Moreover, in the first use of a method, the dangers are much greater than when experience has perfected knowledge,

Camillo Furst, in a paper read before the monthly meeting of the Medical Society of Steiermark on April 13, 1885, in summing up the evidence as to the value of the mercurial method, says that "the clinical results of the use of corrosive sublimate in labor are on the average better than the use of any other antiseptic, and that even those authors who have had to complain of cases of severe poisoning, almost universally agree in praise of the method," and in thus saying Dr. Furst formulated the apparently universal opinion of progressive Germany.

After childbirth corrosive sublimate is used for several somewhat different purposes. First, for the disinfection of the nurse and the doctor; second, for the disinfection of instruments; and third, for the disinfection of the patient herself.

The most scrupulous cleanliness on the part of the nurse and the doctor is of the utmost importance, and with the half-trained nurses which abound in the United States, probably the most difficult part of the treatment will be found to be the persistent disinfection of the nurse herself. The hands should be frequently washed (at least as often as they touch the patient) in the solution of the corrosive sublimate, and after the use of the corrosive sublimate, rinsed in warm water, and then washed with soap and warm water. For this purpose the solution of corrosive sublimate may be made one in five hundred. Metallic instruments cannot be disinfected by means of the corrosive sublimate, as they are usually chemically acted upon by it, and for them carbolic acid, or some other disinfectant, is essential. Their use should, however, as far as possible, be discarded in the lying-in room. Hard-rubber catheters, syringes, etc., should be substituted for the old-fashioned implements whenever it is possible.

It is very important to decide as to the strength of the solutions which are to be employed upon the person of the patient. The experiments of Schede (*Die antisept. Wundbehandlung mit Sublimat, Klin. Vortr.*, No. 251, S. 19 u. 35) indicate that the solution of less than one part in two thousand is of very little value as a germicide, and, indeed, that even this solution cannot be relied upon. The conclusion of Jaffè as to the strength of the solution and method of its use upon the parturient woman seems to be a correct one. It is that after ordinary births a simple vaginal irrigation should be practised, with one part of the corrosive sublimate in a thousand of water. Of this solution one pint may be used at a time, at first twice a day, and then once in twenty-four hours. After cases of complicated labor, especially where the hand has been introduced into the uterus, Dr. Jaffè believes that intra-uterine irrigation should be practised with the solution containing one part in two thousand. This irrigation should always be performed by the doctor himself. Not more than a pint and a half of fluid should be used, and especial care should be taken to see that the uterus is thoroughly contracted after the employment of the irrigation, because one of the great dangers of the intra-uterine employment of corrosive sublimate is the remaining of some of the solution in the uterus and its almost inevitable subsequent absorption.

In many cases the intra-uterine irrigation need not be practised more than once, but where there is retention of the placenta or the frequent formation of clots or any tendency to the development of septic symptoms, it must be repeated *pro re rata.*

It must be remembered that most of the cases of poisoning have occurred after the repeated and long-continued use of irrigation, and it is therefore proper to discontinue the employment of the corrosive sublimate so soon as circumstances will permit. When as much as nine pints in all of the solution (one in one thousand) have been employed, even by the vaginal injection, the danger of poisoning becomes a factor to be very carefully considered. Such caution is made more important by the fact that usually the symptoms of mercurial intoxication have appeared with great suddenness.

There are certain conditions of the patient which contraindicate to a greater or less degree the use of corrosive sublimate. The existence of a high degree of anæmia or of general feebleness necessitates great caution. If nephritis, or even albuminuria without casts, has been observed during the pregnancy, much more if it be present at the time of the labor, great care must be exercised in the use of the corrosive sublimate. Almost all the cases of poisoning have ended in suppression of urine. It is certain that the metallic salt is eliminated by the kidneys, and during the process of elimination it must act upon their secreting structure as upon that of the intestinal tract. This is abundantly confirmed by the experiments of Salkowsky and Prevost, as well as by the records of the post-mortem room, which show that corrosive sublimate has an especially irritating influence upon the kidneys. If, therefore, a diseased kidney already exists, the mildest of poisoning with corrosive sublimate is very prone to have a fatal termination.—*Therap. Gazette.*

ON THE LOCAL ANÆSTHETIC ACTION OF APOMORPHINE.

Ludwig and Bergmeister have experimentally demonstrated that the anæsthetic action of apomorphine equals, as far as the eye is concerned, that of cocaine (*Centralblatt f. d. ges. Therapie*, May, 1885).

After the instillation of a two per cent. solution of crystallized muriate of apomorphine (Merck's preparation) in a quantity 6 to 18 drops, so complete an anæsthesia of the cornea and conjunctiva resulted within ten minutes that irritations of every kind provoked neither response nor any reflex activity. The animals experimented upon were cats, which are well known to react quicker on irritation of cornea or conjunctiva than rabbits-

The anæsthesia lasted usually five to ten minutes. In one case only the animal retained impaired sensibility for one hour.

Applied on man, apomorphine produces a passing, though sufficiently marked injection and pain of the conjunctival sac. Mydriasis always attends the exhibition of this instillation.

Salivation and vomiting were so invariably noted in animals that these untoward effects were regarded as constant attendants of the application of apomorphine.

To summarize the results obtained on man, the drug was found:

(*a*) To render the cornea and conjunctiva anæsthetic within ten minutes after the instillation of 6 to 12 drops of two per cent. solution.

(*b*) To be painful and irritant.

(*c*) To produce moderate mydriasis and marked nausea.

(*d*) To cause xerosis (i. e., diminution of the glandular secretion).

If it be possible to obviate these untoward effects of apomorphine, the drug would be likely to receive a direct therapeutic consideration not unlike cocaine.—*Therapeutic Gazette.*

THE LONG-CONTINUED FEVERS OF LOUISIANA THAT RESIST QUININE.

By RUDOLPH MATAS, M.D.—(Abstract.)

The writer, after showing that the following dictum of Nothnagel: "It is an abuse to administer antipyretic agents, especially quinine, in temperatures of 102° and 103°, in the very first day of treatment, when one has as yet no definite idea of the developments which the disease-process will take," adds that this could not be scientifically followed in a malarious region. Quinine is given in Europe as an antithermic, but with us not so much as an antithermic as for its antidotal properties.

A certain percentage of the fevers usually classed malarial in his section (Louisiana) present certain clinical and therapeutic characteristics, which alienate them clinically from the fevers universally recognized as malarial.

"One of the main differential peculiarities of these pyrexiæ is their peculiar behavior to quinine, their absolute indifference to the action of this alkaloid, which, even when most lavishly administered, does not exercise the slightest modifying influence over their course. It is to the study of these fevers which resist quinine that I will now confine myself.

"What are, then, these fevers that resist quinine?

"I will state, to begin with, and I think it is a dictum well sanctioned by experience that *the more continued the type of a fever, the more difficult it is to control by quinine, i. e., the more a fever departs from the typical manifestation of malarial toxæmia—the intermittent type—the more difficult it is to cure by the exhibition of the antiperiodic salt.* Thus it is well known and universally acknowledged, that a remittent fever is much more difficult to control by quinine than a strictly intermittent fever, though we all admit that the mass of the remittent fevers that prevail in our midst can be ultimately arrested, though with some difficulty at times, by the free and vigorous administration of quinine. But there are fevers, and these are not altogether infrequent among us, over which quinine exercises no perceptible influence whatever, and these are the *continued* protracted fevers of typhoidal duration, which are commonly classed as the so-called "continued *malarial* fevers." Why these fevers should be classed as "malarial" I can only understand through the following reasons: 1st. That they prevail in malarial localities. 2d. That they are of a remittent type, and 3d. That they occasionally terminate in intermittent paroxysms. These reasons, however, can readily be disposed of when we consider that, as regards the first two, they apply as well to other conditions, which are certainly not malarial, viz: typhoid fever; and as to the third reason, we all know that any fever may be complicated with the malarial poison, which, remaining latent in the presence of a more powerful intoxicant, will manifest itself vigorously when its more potent rival has exhausted itself. When shorn, therefore, of these defenses, the argument that these continued fevers are of malarial causation, loses all its weight, and these peculiar febrile states stand, if not as independent and well characterized morbid entities, at least as fevers which are so far removed from the common type that they can be classed as nonmalarial pyrexiæ.

"But if these continued fevers which resist quinine are not malarial, what are they?

"Before attempting to answer this question let us first glance over the list of the continued fevers which prevail in our midst and that are recognized among us as fevers which resist, to a greater or less degree, the antipyretic influence of quinine.

"I believe that in the order of rebelliousness we may place them as follows:

"1. yellow fever. 3. Typhoid fever. 3. Dengue. 4. Typho-malarial fever, so-called. 5. The so-called continued malarial fever. 6. Simple continued or ardent fever. 7. Malarial remittent, with gastro-hepatic or other organic complications ("bilious fever.")

"This list, I believe, covers pretty thoroughly most of, if not all, the fevers (excepting the puerperal and surgical septic fevers) which are at all liable to be confounded with the strictly malarial fevers, and are the fevers which experience has taught us are not directly or readily controlled by the cinchona alkaloids.

"I need not dwell upon the first three, yellow fever, typhoid fever and dengue, because their non-malarial nature is universally acknowledged. The radical difference between their causative agents and that of malarial being too well appreciated to require an explanation of the inutility of the anti-periodic salt in their treatment.

"Neither will it be necessary to detain you with a discussion of the so-called typho-malarial fever. If we accept the opinion now held by the most enlightened observers, that it is simply typhoid fever with malarial complications, then it is plain that quinine will only benefit the patients suffering with this fever insomuch as the malarial element complicating the case will be eliminated and the typhoid poison allowed to afflict its victim unassisted.

"If we also admit that there are numerous cases of remittent malarial fever that are characterized by great adynamia which closely simulates the typhoid state, then we need not class this species of fever as one of those which are not controlled by quinine, but simply as an ataxic remittent malarial fever, as it is certain that the alkaloid will be beneficial as an antipyretic in its treatment. Abundant experience testifies to this, and the observations of our most authorized practitioners prove conclusively that such cases are readily subjugated by the specific remedy when the ataxia is properly corrected by a stimulating and analeptic therapeusis.

"As it is evident, also, that the form of malarial remittent, which is commonly known as "bilious fever," is a fever which is complicated with marked catarrhal and even inflammatory derangements of the gastro-hepatic function as manifested by the "bilious vomiting" and icteroid tinge which distinguishes it. I need not dilate upon the reasons why this fever is not readily controlled by quinine.

"This fever is uncomplicated with the lesions referred to would be nothing more than a simple remittent malarial fever which would succumb to the antidotal effect of the cinchona salts as any other uncomplicated remittent would.

"Having said this much, we have now only left to consider the fifth and sixth species of fever marked in our list, i. e., the so-called "continued malarial" and the simple continued fevers.

"These two fevers, I believe, are in many instances due to one and the same cause, and this cause is *not* the malarial poison. These fevers, though commonly of long duration--three, four and five weeks sometimes, are the purest type of the essential fever that has ever come under my observation. They are conditions in which the only abnormality lies in the excessive heat disturbance. Fever is the sole cause of anxiety and the consequences of excessive physiological combustion the only complications.

"It is to this fever that I would especially direct your attention. It is a form of fever which extensively prevails in our midst in summer, and is commonly styled either "continued malarial fever," "typhoid fever," or even "typho-malarial fever," whenever the practitioner is hard pressed for a diagnosis ; these various appellations being given to it simply to account satisfactorily to the laity for the protracted duration of the sickness, and not because there is anything much of the malarial and much less of the typhoid about its clinical history to account for such misguiding appellations. In this fever quinine is absolutely as valueless as it is in pure yellow fever or typhoid fever. I have given this salt faithfully in every case that I have had occasion to treat, first as an anti-periodic or specific remedy to test the relations of the condition to malaria, and have in each instance failed to produce any marked impression. I have then continued the administration of the alkaloid simply as an antithermic, and in this, after the most faithful trial, I could not have been more disappointed. as almost any other antithermic remedy has been far more effective and beneficial to the patient."

Dr. Matas quotes at length a lecture by Dr. John Guiteras, M.H.S.*, who describes this fever, calling it *continued thermic fever of the tropics*, and continues :

"The differential points between this fever and typhoid are well summed up by Dr. Guiteras. Typhoid fever is found in America, at least, with diminishing frequency as we descend toward the tropics. Its existence in these regions has been denied. The late lamented Dr. Faget was well known as a vigorous upholder of the opinion that typhoid fever did not and had never existed in New Orleans. He claimed that during his professional life, which covered an extensive experience of over forty years of medical observation in this city, he had never seen a case of the disease. Contrary to his dictum, however, we have seen and carefully studied one case which apparently originated in this city, in which the intestinal lesions found post mortem, confirmed, without a doubt, the typhoid nature of the case. At a very recent meeting of the New Orleans Pathological Society, Dr. McShane exhibited sections of typical Peyerian ulcerations from a case that died in the hospital. But this case was imported. It must be admitted, therefore, that *typical* enteric fever is a rare disease in New Orleans.

"We have been taught that the outbreaks of typhoid are generally circumscribed to houses or groups of houses, and that they are traceable to contamination of the air or water supply. The epidemics of Havana have been governed by these same laws of propagation. The cases which occurred in Tampa last year (1883) were all traceable to the drinking of well water. There was no such common factor in the etiology of our cases in Key West. [In this particular New Orleans is very much like Key West. The universal use of rain water collected in cisterns precluding the liability which its inhabitants would incur from sewage contamination.] The water used by the majority of our patients [who suffered with this continued thermic fever] was cistern water. [This was certainly the case with our New Orleans patients]. They were frequently moved from one dwelling to another, without ever starting new foci of infection. All the cases, with one single exception, were isolated, and they occurred in every section of the city. The exception was met with in a family consisting of the mother and five daughters. Only two of the latter escaped. But in the immediate neighborhood amongst persons who used the same water, and who actually lived in the same house waiting upon the sick, not one was affected. These cases were moved to another house, with the following results: Continued convalescence of the mother after fifty-four days of fever, improvement and recovery of two of the daughters, one with fever of two days duration and the other four. The third was one of the few fatal cases. The one common factor to this family, and to most of the severe cases of the fever was that they were sickly, over-worked factory hands, living in hothouses, frequently exposed to the sun, or persons in some way especially subject to the exhausting influences of the summer. Hardy laborers who were much exposed to direct solar heat were not prone to contract the disease."

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*Therapeutic Gazette. March 10, 1885.

"The other factor common to the majority of these cases was the previous existence of some slight ailment, such as bronchial or intestiaal catarrh, the disturbances of dentition, worms, sore throat, or a slight attack of intermittent fever contracted outside of the island."

"I am able to corroborate Dr. Guiteras' statements in every particular. My worst cases have been in persons who lived in very prostrating circumstances, one a cigar-roller, a young man of 18, worked in a crowded factory, where it may be said that all the workmen coughed from the bronchitis produced by tobacco dust and smoke; his fever lasted over five weeks. The second was a bootblack, a light mulatto, who polished shoes almost constantly on the hot sidewalks of our thoroughfares, during the most heated hours of the day; he suffered with fever for over two weeks. A third case was that of a young boy employed in a printing-office, and exposed to the heat of the engine; his case lasted a full month· A fourth was a young Irishman, who had been much over-worked during the winter, and who fell ill with a fever of three weeks duration in the early part of summer.

"Let us now pass on to a consideration of the seasons of the year in which these cases prevail. 'Typhoid fever prevails during the autumn months, and continues through the winter. The typhoid fever prevails in Key West during the summer, and more surely even than yellow fever it vanishes with the first norther, after reaching its maximum towards the end of summer.' In this statement I believe Dr. Guiteras is too positive; though it is unquestionable that the majority of the fevers that resist quinine of this class prevail here in summer, I am sure that I have seen at least two typical cases of this continued fever described by the doctor in the course of last winter.

"Having considered, thus far, the reasons which lead us to believe that the continued fever under consideration is not typhoid fever, let us now stop to consider what is more important to us, viz: the differences which separate it from the malarial fevers. In the beginning we stated our principal reason for not believing in a strictly malarial etiology, and that was the absolute utility of quinine in the treatment of this condition. This is the capital fact which immediately strikes the practitioner in the treatment of this pyrexia, and it is the one which at once arouses his suspicions as to the nature of the case.

"The casual relationship between malarial remittent and intermittent fevers has often been, and is still questioned by many, but it is undeniable that a large majority of the remittent fevers that prevail in malarious localities are controlled by a vigorous antiperiodic (quininic) medication, and I am satisfied that it is in the identity of therapeutic results that the accepted belief in their common causation is mainly based. Neither can it be denied that many cases of remittent fever, which could readily be subjugated by quinine, are unaffected by this salt when organic complications of an inflammatory character intervene in their course. But in the fevers under consideration the thermic movement is the only manifest trouble; they are typical *essential* fevers; there are no gastro-hepatic disturbances, no jaundice nor bilious vomiting, no enlargement of the spleen, none of the complications, in fact, which so often characterize the malarial remittent and which find so apt a designation in the expression, "*bilious fever*." Finally, these fevers are not followed by the cachexia left behind by the malarial remittents, and the convalescence, though slow, is usually complete and uncomplicated.

"The difficulty in the way of a complete differentiation between these fevers, and, in fact, between all the continued fevers which prevail in malarious localities and those of strictly malarial etiology, lies in the want of a definite clinical test. Periodicity is certainly not a criterion, as all the continued fevers are, to a greater or less extent, periodic in the oscillations of their thermic movement. The microscopic test, i. e., the disintegration of the red cells, their crenated aspect, and excess of pigment matter in the shape of melanhæmic corpuscles, is also unreliable, because these histological changes are almost solely the accompaniments of the chronic forms of malarial intermittent toxæmia—the paludal cachexy, the identity of which is never questioned. This test is, indeed, useless, as in the very forms of fever in which a differential diagnosis is most wanted the hæmatic changes are not at all pronounced. Dr. Guiteras examined the blood of cases of Chagres fever, which is everywhere admitted to be a malarial fever, and which readily submits to antiperiodic treatment, and found no changes whatever in the morphological constitution of the blood. He also examined the blood of patients affected with the continued thermic fever that we have just described, and found in it "nothing abnormal." Perhaps the inoculations which Gerhardt, Mariotti and Ciarrochi have recently performed in Italy with intermittent fever blood may open the way to the application of a test by inoculation somewhat in the manner of the tests which syphilographers apply to differentiate chancre from chancroid ; but first of all it will have to be proven that malarial blood is really inoculable.

"But I think that for practical purposes we have a ready and good test in the therapeutic properties of quinine.

"It is only fair to assume that if the poison of remittent is identical with the poison of intermittent fever, that the antidote for one ought to be the antidote for the other. And this assumption is well sustained by the facts of experience, which tells us that some remittent fevers are cured, or, at least, abbreviated by quinine.

"It is natural, therefore, that we should conclude that whenever the reagent (quinine) fails to produce the customary reaction (cessation of the toxic phenomena), that the poison is a different one. For this reason, and with a due appreciation of the influence of complications in interfering with the test power of quinine, I have come to the conclusion that when any essential fever (i. e., a fever free from organic complications) is not affected or controlled by the thorough and systematic administration of the salts of quinine, that it is not a malarial fever.

"For this reason, mainly, I believe that the continued fever which I have described is not a malarial fever. As to its nature, I must confess it is problematical, but I believe that the opinion which has been emitted by Guiteras in respect to it is perhaps the most satisfactory, though they are strong objections to it which I have stated elsewhere.

"Guiteras says: 'In vigorous persons, who are often exposed to the direct heat of the sun, I believe that the inhibitory apparatus is kept in a healthful, vigorous training by the habitual demands made upon its functional activity. But in the sickly and overworked, it is my opinion that an exhaustion of these controlling centres is brought about, which gives rise to the fever. Hence it is that I have designated these cases by the name of thermic fever, proposed by H. C. Wood, for the accurate variety of the affection.'"

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REMARKS ON ANTITHERMIC TREATMENT.

"A review of the treatment of the long-continued fever which is especially discussed in the present paper, has not been added for fear of expressing premature opinions on the value of recent and undoubtedly potent antithermic agents which I have tried lately with gratifying results in six cases, but in regard to which my personal experience is yet too limited to permit me to deduce general and trustworthy conclusions.

"It is now over four years since I began the administration of sodium salicylate in fever practice as a succedaneum to quinine, whenever this salt failed to act antithermically, and since that time I have constantly resorted to it, often with astonishing success in all continued fever cases, and particularly in yellow fever.

"Since the introduction of kairin (by Fischer and Filehne) and antipyrin (by Knorr, Filehne, Penzoldt and Sartorius) I have resorted to these drugs, and, though my experience with them has been limited to nine fever cases, six of which were of this long-continued type, I have met with such striking and uniform success in lowering hyperthermic fever, that I am almost prompted to state that these agents are the most potent antipyretics in the materia medica.

"I have observed several cases in which sodium salicylate had failed to produce an impression, and in which antipyrin repeatedly succeeded in bringing down very high temperatures to almost the normal degree.

"In my experience, which is confirmatory of that of most observers who have studied this drug, antipyrin is preferable to kairin, the latter drug often giving rise to gastric disturbances, nausea, vomiting, etc.

"Antipyrin, as a rule, is well borne and lowers temperature more gradually and permanently than kairin. Its effects, in all my cases, have been far less disagreeable than quinine, the patients usually taking the drug very readily in capsules.

"In the treatment of fever in children who are unable to swallow capsules, or to whom the administration of a liquid solution of antipyrin would be troublesome, the exhibition of this compound by enema is very efficacious, the rectum usually retaining the solution far better than quinine, which is often rejected on account of the irritant character of its acid solution.

"In cases in which there is great prostration, and particularly a weak pulse, the practitioner should be wary as to the doses in which he employs these antipyretics. Thus far all observers express a belief in the benignity of the physiological action of antipyrin, but the recent report of a death supposed to be due to the free administration of antipyrin should make us careful. I believe, however, that in doses of five, ten, fifteen, and even twenty grains, it will never exercise any detrimental action.

"I have given it quite freely in some recent cases, and not the slightest depressing effect have I observed on the pulse.

"In three cases of long-continued fever which I have had under my charge since January, the medicinal (antithermic) plan of treatment adopted was as follows: In the beginning, when the diagnosis was uncertain, and simple malarial remittent was suspected, quinine was given largely and freely—20, 30 and 40 grains a day. When, after the thorough production of cinchonism, no effect was noticeable on the temperature, sodium salicylate was administered in the following manner:

℞.	Sodii. salicylatis	ʒ ii.
	Syr. papaveris	℥ i.
	Syr. aurant. flor.	℥ i.
	Aquæ q. s. ad.	℥ vi.

"S., one tablespoonful of this mixture every hour, whenever the temperature rises above 102°. If any cardiac prostration manifested itself by excessive frequency and irritability of pulse, two drachms of tinct. of digitalis were added to the solution.

"The reason for administering the salicylate only when the temperature is above 102° F., is based on the observation that sodium salicylate appears to lower only high temperatures. A fever of 104° and 105° is much more quickly diminished by the salicylate than would be a fever in which the thermometer registered only 102° or less.

"There are some cases in which the salicylate appears to lose its antithermic potency, and particularly when dealing with these long-continued fevers. In such cases antipyrin (if I am to judge by my recent experience) will rarely, if ever, fail in reducing the fever. I usually prescribe it in capsules, viz:

℞. Antipyrin	gr. xxx.

Ft. in caps. No. XV.

"S., two capsules every half hour until ten are taken, remaining five at an hour's interval.

"The temperature will almost invariably fall *pari passu* with the administration of the drug.

"With these three agents, viz: sodium salicylate, kairin, antipyrin (and perhaps also the still more recent thallin which I have not yet tried), the practitioner is fully and powerfully prepared to encounter excessive thermic movements.

"Of course, it should be well understood that, while claiming for these agents real and most efficient antithermic properties, I do not believe that they do in any manner abbreviate the course of a fever; they are not specific remedies, such as quinine is for the malarial poison—they are simply heat regulators, and as such are agents of priceless value at certain periods in the career of these long-fever cases. I simply recommend them here as a basis for a *medicinal* antithermic therapeusis in cases where quinine is impotent as an antipyretic.

"Whenever the practitioner is allowed to apply the cold bath I would apply the method which Dr. Guiteras has found so efficient in Key West. But I fear that the marked prejudice which exists in our population against the cold bath in fever would allow but a very limited and unsatisfactory application of the methods of Brande and of Leibermeister.

"Sponging of the surface with dilute *eau sédative* vinegar, etc., are not objected to in this locality, and consequently can be adopted with advantage to the patients.

"Finally, whilst advocating a vigilant and active antithermic treatment, I would not, in any manner, depreciate or underestimate the importance of constant alimentation, stimulation and all the various auxiliary measures comprised in good nursing. This is as important in the long tissue-wasting thermic fever of this section as in the more dreaded and devastating typhoid fever.

"Symptomatic remedies and other accessory measures of treatment are not mentioned, as they will readily suggest themselves to any educated practitioner whenever indications for their use present themselves."

OFFICIAL REPORT OF THE PROCEEDINGS OF THE BOARD OF MEDICAL EXAMINERS OF THE STATE OF NORTH CAROLINA, IN MEETING AT RALEIGH, AUGUST 24TH, AND ASHEVILLE AUGUST 26–27, 1885.

RALEIGH, N. C., August 24, 1885.

In compliance with instructions, a called meeting of the Board of Medical Examiners of the State of North Carolina was held this day at the Yarboro House. Present, Drs. Wm. R. Wood, P. L. Murphy, James A. Reagan, F. Duffy, A. W. Knox and W. J. H. Bellamy.

The following 13 applicants were granted license, viz: John Wesley Speight, Hertford; Leonard Gaston Broughton, Barnes' Store; Jesse Burbage Lucas, Harrell's Store; George William Lewis, Nashville; F. W. Lowry, Newbegun Creek; Chas. Vaten Broughton, Wilson; James Franklin Beall, Linwood; Alexander Bulla, Jackson Hill; William H. Bagwell, Pactolus; Alexander H. Robbins, Phœnix; Edward Chancey Register, Enochville; Abner Tillman Cooper, Clinton; Eugene Middleton Littlejohn, Warrenton.

Three applicants were refused license.

The Board then adjourned, to meet in Asheville on the 27th and 28th August.

ASHEVILLE, N. C., August 27, 1885.

The Board met at 8 A. M., and on motion a committee composed of Drs. Murphy, Knox and Duffy was appointed to draft rules for the government of the Board, to report in Newbern in May next.

The following 22 applicants were granted license: Jere Robert Pearsall, Morganton; Will Parsons Ivey, Sherrill's Ford; McCamie Wilson Gibson, Statesville; Rufus Leonidas Allen, Waynesville; James Robert Anderson, Lowesville; Benjamin Robert Killian, Taylorsville; George Doughton, Sparta; Jordan B. Phillips, Sugar Loaf; Jacob Carson Tilson, Grape Vine; John William Patton, Murphy; Jacob Forney Abernathy, Murphy; James Henry Teague, Quallatown; Aurelius McDonald Bennett, Quallatown; Isaac Arthur Harriss, Flat Creek; Joe Hill, Arcadia; Alfred Abraham Kent, Lenoir; John Robert Straw, Jefferson; Charles Spratt Rozzelle, Denver; Jefferson Bostwick Councill, Boone; Joseph Howell Way, Asheville; Thomas Beatty Lovelace, Forest City; Guilford Eves Young, Forest City.

The following named 7 applicants were allowed to withdraw their application for license: William John Hughes, Leicester; Augustus Clingman Boyles, Keeversville; Elijah Fillmore Bingham, Watauga Falls; Hannibal McD. Little, Taylorsville; John C. B. Justice, Asheville; James Oliver Fore, Ogreta; James Moses Clark, Leicester.

Eight applicants were refused license.

In Raleigh and Asheville there was a total of 53 applicants, of whom 35 were granted license, 11 were refused, and 7 were allowed to withdraw.

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EXTIRPATION OF THE LARYNX has been recently successfully performed. One case by Dr. Leon Labbé (March 28), and another by Dr. Azio Caselli (April 18). In the case of Dr. Labbé the operation was rendered necessary by reason of a spindle-celled sarcoma springing from the left venticle of the larynx; that of Caselli for an epithelioma of pharynx and larynx. In Dr. Labbé's case deglutition was natural in two months, and in Dr. Caselli's by the aid of an artificial larynx the patient could speak, eat and drink.

REVIEWS AND BOOK NOTICES.

Illustrations of Clinical Surgery. By Jonathan Hutchinson, F.R.S.

We have noticed from time to time this very choice work, and have been surprised that it has found its way into so few private libraries. Since the days of Robert Carswell's superb work nothing like it has issued from the English press. This is the 7th Fasciculus of the 2d volume, and the work, we learn, is about to close.

The author set for himself the task of reproducing from his private portfolios cases of rather unusual occurrence, illustrating his practice in surgery and diseases of the skin, without observing any sequence of subjects, selecting always subjects which bear directly on important points of diagnosis and treatment.

The last fasciculus and the present together give four plates illustrating fractures of the femur—plate lxiii giving four lithographic drawings of extra-capsular fractures.

The second subject or order in this fasciculus is a chromolithographic description of Lupus of the mucous membranes, two figures representing the very rare form of lupus of the gums and lupus-ulceration of the hard-palate and gums. The next plate gives two chromolithographic figures of superficial forms of rodent cancer. By far the most interesting portion of this fasciculus is the representation of chancres in unusual positions—the fingers, the eye, the tongue—all representations of *syphilis sine coitu*, venereal sore, which physicians frequently run the risk of contracting. Mr. Hutchinson says in regard to them : "An infecting chancre on the finger may never show anything more than a small dusky spot, not ulcerated, not attracting attention for more than a few weeks, and leaving nothing but a little brown stain. Yet, after such a sore, there may be a full development of syphilis. On the other hand, there may be such an excess of inflammatory action that all trace of specific induration may be concealed. The chancre itself may, in some cases, spread very widely. Thus I have known a case in which an indurated sore, by no means phagedænic, included nearly the whole of the palm of the hand, and another, in which nearly the whole side of the face was involved. As regards position, these sores may occur on any part of the body. * * * The midwifery chancre is a form from which medical men suffer most severely, and it assumes a great additional importance from the risk there is of conveying it to their patients. * * * Amongst the more infrequent positions, I may mention that I have seen a primary sore in the middle of the sole of the foot, on the ear, on the nose and on the skin of the chin at some distance from the lip. I have three times seen them on the tongue, twice on the tonsil, and once on the conjunctiva of the eye-ball. The two which occurred on the tonsil was explained, one by the patient having put the nozle of an infant's feeding bottle into his mouth, whilst in the other a surgeon believed that he had received a splash of liquor amnii into his face and mouth. * * * The stories we so often hear as to infection at water-closets, etc., are, I doubt not, in exceptional cases, really true."

The cost of these volumes, unbound, when completed, will be about $50, but as each fasciculus can be bought separately, the outlay will scarcely be felt by those who have purchased them as they were issued from the press.

ON RENAL AND URINARY AFFECTIONS. By W. HOWSHIP DICKINSON, M.D., Cantab., F.R.C.P. Miscellaneous Affections of the Kidneys and Urine. New York: Wm. Wood & Co., 1885. Pp. 343.

This is the August installment of Wood's Library, and the publishers announce that in order to reduce the size of the volume they have omitted the large number of cases cited in detail in the English edition.

This volume presents the whole subject of diseases of the kidneys in such a thorough and earnest manner as to impress the reader that he is drawing from his practical knowledge.

One subject especially will interest those of our readers who have had to treat hæmorrhagic malarial fever; we refer to the chapter on *Intermittent Hæmaturia or Hæmoglobinuria.* As it will serve to show the powers of analysis and description of the entire work, we quote at length from a pathological examination of a patient who died with intermittent hæmaturia under the care of Dr. Dickinson.

"The particulars may be condensed into the statement that there was intense injection, particularly about the junction of the cones and cortex, and several evidences of extravasation, the most marked of which was an interstitial mass of blood, of irregular shape, three or four times the diameter of a malphighian body. The extravasations appeared to be chiefly of arterial origin and to consist mainly of corpuscles, but in part of granular matter, apparently the result of their disintegration. I shall place next an instance in which death occurred two months after the cessation of a severe and long-continued hemorrhage of the kind in question, which was sequent upon malarial fever. Extravasations were found in many parts, whether connected with intermittent hæmaturia, or directly with malaria ; there were corpuscular extravasations in the liver and a preposterous quantity of blood-pigment in the spleen. The kidneys were marked by intense injection, and contained minute extravasations in connection with the cones and cortices ; the most striking of which surrounded a malphighian body. The extravasations appeared to be wholly corpuscular, both of red and white. There were evidences of tubal and interstitial nephritis, and the tubes contained granules of blood-pigment. Together with these facts I must revert to the remarkable case of congestive nephritis related in an earlier part of this work, which presumably took its origin in the intermittent condition, though the clinical evidence was not complete on this point. The kidneys were not only intensely congested, but both had burst their capsules, with much superficial extravasation—an exceptional result of renal disease, which cannot but point to a connection between that case and those more recently addressed. In this case, in addition to the tubal and interstitial results of acute nephritis, many of the tubes were lined with black, granular matter, evidently blood, for the most part, though not entirely deprived of its corpuscular shape.

Since these cases have occurred several other post-mortem examinations have been recorded, but none which throw any light upon the disease. We owe to Prof. Murie, of Bologna, one upon a patient also syphilitic, who died apparently of tuberculosis seven months after his last attack of hæmoglobinuria. There was general miliary tuberculosis. The kidneys were of unequal size ; the left natural to the naked eye, excepting a few tubercles, the right hyperæmic, and with an increased cortex. Upon microscopic examination, besides the tubercles which were present in both, it was found that the interstitial tissue was increased, the epithelium in some parts of the cortex swollen and detached, and collections of yellow and black pigment seen in the cortical tubes.

Taking these cases together, with the perfectly natural action of the kidney often observed during life in the intervals of the attacks, we may *conclude that no permanent or structural change, either of the kidney or of any other organ, is necessarily involved in the disorder.* But at the same time interest must necessarily attach to the extravasations which were found in three cases, if the third, in which the capsules were thus ruptured, may—of which there seems but little doubt—be reckoned as of the same nature, and to the remarkable and intense injection which was uniformly observed when the hæmaturia was of recent date. We thus may regard intense renal hyperæmia frequently accompanied with extravasation as the immediate result of the attack, while tubal catarrh, interstitial overgrowth and chronic fibrosis are to be traced as sometimes consequent upon it, due probably to the repeated congestion which the disease involves. The renal changes, essentially consisting of hyperæmia, which is usually transient, are consistent with the belief that the disorder is primarily of the blood, the kidneys affected only as the channels of elimination.

With the facts now before us, we may take a general view of the phenomena of the disease. They have been differently interpreted. Dr. George Harley was led, by the jaundiced appearance, to infer that the attacks were in some way connected with disturbance of the hepatic function. I ventured at the same time to attribute the symptoms to a disintegration of blood-corpuscles within their proper vessels, and the subsequent discharge of the débris by the kidneys, rather than to any hepatic or primarily renal change. The view which thus presented itself nearly twenty years ago has now found general acceptance. Sir W. Gull held that whatever the primary change might be, there was at least good evidence that the kidneys were affected, and adduced in an instance of the renal source of the disorder the case of a lady who passed the urine characteristic of it in consequence of having received an injury to the loins, Dr. Greenhow, the next commentator, used the term dyscrasia in connection with the disorder, and while admitting the evidences of renal congestion during the attack, which are sufficiently obvious, accepted the view which placed the essential change in the blood.

Dr. Stephen Mackenzie, to whom we are indebted for an able and comprehensive paper on the disease, though formerly he thought that the corpuscular destruction occurred in the kidney, has found himself unable to resist the accumulated evidence that it takes place in the general circulation. And that it is here would seem now beyond doubt, since the products of the corpuscular dissolution, hæmoglobin, and, according to Murie, granular matter, have been found in the serum or liquor sanguinis. In what system of vessels the destruction takes place may be less certain than the fact of its occurrence, but it has been supposed, with probability, to come to pass in the parts of the body, chiefly the extremities, the blueness and coldness of which mark the outset of the attack. In these regions of local cyanosis, from which Prof. Murie infers that the arterial blood is shut by a spasmodic vascular action, he supposes that the corpuscles are broken down by the combined action of cold and carbonic acid, to be eventually eliminated by the kidneys.

It has been often observed that a feeling of general illness precedes any urinary change, any lumbar pain or renal symptoms. The rigor probably marks the time of contamination. A rigor, says John Hunter, is commonly the first symptom of a constitutional affection. And whether the poison be febrile or septic, the truth expressed is one of daily experience. The change in the urine is subsequent, and probably due to an escape by the kidneys of the morbid product. Dissolved or broken-up corpuscles cast loose into the circulation may easily account for the tinting of the skin, as if by hæmatin ; and also for the articular effusions, presumptively of blood or blood substance, which were observed, as if the blood-waste had sought other exits besides the renal. That the kidneys become congested, sometimes intensely so, under the process, is evidenced by the lumbar pain, the retraction of the testicles, and the other passing signs of irritation which they manifest ; there is even the suggestion, to which I need not again recur, that they may become congested to bursting or fatally inflamed under the disturbance. But it is clear that whatever happens to the kidneys kidneys is consequent upon the disorder, not antecedent to it. *The natural action of these organs in the intervals, and the post-mortem evidence which we have, are sufficient to show that their change of function is due to passing circumstances, not to permanent change.*"

Poisons—Their Effects and Detection—A Manual for the Use of Analytical Chemists and Experts. By Alexander Wynter Blyth, M.R.C.S., F.C.S'. Vol. II. William Wood & Co., 56 & 58 La Fayette Place. New York, 1885.

We noticed the first volume of this work in the August Journal, and further acquaintance with it now in this completed form justifies the favorable comments we made of it.

The author quotes Dr. Richardson, of Philadelphia, to the effect that human blood may be distinguished from that of other animals by using a very high-power magnifying instrument, and taking much trouble an expert can satisfactorily identify drops of blood from different animals—such as the sheep, horse, goat, dog, cat, etc., all fresh at hand for comparison, *if the human blood is normal.* The author adds, though, that when we come to the blood of persons suffering from disease, there are changes in the diameter, and even the form of the corpuscles which much complicate the matter, * * * and he would be bold who should venture any definite conclusion as to whether the blood was certainly human, more especially if he had to give evidence in a criminal case. One of the means for the determination of the nature of blood when a few milligramms of it can be had, is greatly neglected, viz: the estimation of the relative amounts of potassium and sodium in the blood of man as compared with that of the blood of domestic animals. In the blood of the cow, sheep, fowl, pig and horse the sodium very much exceeds the potassium in the ash—in the cow, as 1 : 8; in the fowl, as 1 : 16—while the same substances in the human blood are sometimes equal, and vary from 1 : 1 to 1 : 4 as extremes. (P. 620.)

An appendix is added, which gives treatment by antidotes or otherwise of cases of poisoning. The poisons and antidotes are printed in conspicuous heavy-face type to catch the eye, and is well adapted for immediate use in times of flurry incident to poisoning. Particular stress is laid upon giving French oil of turpentine for phosphorous poisoning, coupled with the assertion that American and German oils are useless, but we have disproved this as regards the American oil. With these volumes there seems to be no room now for anything further on the subject of toxicology.

Young Folks Physiology—Our Bodies and How We Live. By Albert F. Blaisdell, M.D. Boston: Lee & Shepard, 1885.

Six Lectures on School Hygiene. Delivered under the Auspices of the Massachusetts Emergency and Hygienic Association, to Teachers in Public Schools. Boston: Gwin & Co., 1885.

We deemed it our duty to give an opinion (Journal for July) of a volume selected by the State Board of Education as a text-book upon physiology and hygiene, with special reference to the use of stimulants and narcotics, and now turn with pleasure to two other books, one of which is written for the same purpose as the one we unqualifiedly disapproved.

Dr. Blaisdell's little book is not without its faults, but it is successfully done inasmuch as it sets forth in a remarkably few pages (276) a concise description of such parts of the anatomy and physiology of the body as are essential to a proper understanding of the laws of hygiene.

In order to impress the lessons in physiology and hygienics, the author has taken great pains in teaching the pupil how to make such experiments, as can be easily done without any specific outfit, and inexpensively. Thirty pages are devoted to this branch of the subject, and it is space well filled. No class of intelligent pupils could go through the course here prescribed without leaving some substantial principles, in addition to the prime educational advantage of learning how to think.

The temperate but decided tone in which the use of alcoholics and tobacco is treated commends the book most decidedly. We do not encounter any such silly statement as that the child of a drunkard will often inherit *alcoholism,* using the term synonymously for dipsomania.

There is not the least bit of the temperance-lecturer's style in this little volume, and we are pleased to say that we can recommend the description of the influence of tobacco and alcohol on the human body as here given, as being wholesome in language and sound in morals.

The Lectures on School Hygiene are by different authors, as follows: School Hygiene, by Frank Wells, M.D.; Heating and Ventilation, by F. W. Draper, M.D.; The Use and Care of the Eyes, Especially During School Years, by C. H. Williams, M.D.; Epidemics and

Disinfection, by G. B. Shattuck, M.D.; Drainage, by Frank Wells, M.D.; The Relation of Our Public Schools to the Disorders of the Nervous System, by C. F. Folsom, M.D. The subjects are well and plainly treated by gentlemen of experience, and will be a valuable addition to the teachers library. We suppose that the real difficulty with the Board of Education is to get teachers to prepare themselves thoroughly on hygienic subjects, especially where the urgent needs of the day lie in a very different direction. If teachers are to undertake to indoctrinate children in hygienics, they will do well to master the little volumes whose titles we have given, and they will have made a substantial move in the right direction.

NC Med J (os.) 16: 180-181, #3, Sept 1885.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE OF THE UNITED STATES ARMY. Vol. IV. HEASTIE—INSFELDT. (~~Broad-faced type~~). Washington: Government Printing Office, 1885. Pp. 1051.

Surgeon Billings, in transmitting to the Surgeon-General of the Army his sixth volume of the magnificent work of which he is the compiler, director and editor, enumerates 7,900 author-titles, representing 2,543 titles, 7,250 pamphlets. Of subject-titles 14,590 separate books 35,290 general articles. But figures cannot convey an adequate conception of the immense labor comprehended by them, nor can the labor involved in the preparation of the volume be fully appreciated.

As years pass by, and these volumes are consulted more and more, their value is greatly enhanced. All the books, all the journal articles, all the little contributions which had passed out of the author's memory, are here arrayed (he is fortunate if he can always be proud of them), and the key to many a labarynthine route to an idea or to a great principle in medicine or surgery, is put at once in the searcher's hands. The subject HERNIA comprises 84 double-column pages; HOMŒOPATHY 20; HOSPITALS 96; HYGIENE 118; INSANE and INSANITY 159.

The index to the literature of Hygiene is invaluable. The division of the subjects is into general hygiene, its history and bibliography, hygienic journals, literature prior to 1800 (nearly fourteen columns, surprising to say), manuals and systems of hygiene, teaching of hygiene, therapeutics of hygiene and its relation to medicine, female hygiene, international hygiene, mental hygine and the hygiene of literary men, military hygiene, municipal hygiene, municipal laws and ordinances by localities, rural hygiene, public hygiene, conventions and congresses, public laws and organization, public reports on hygiene, public societies and associations, rural hygiene and veterinary hygiene. We have omitted some of the minor titles in the above enumeration but the value of it cannot fail to be appreciated by the hundreds of young men who are making a study of hygienics.

No country but the United States can boast of such an Index as this, and now, that the building of a fire-proof home for the great library of which this Index is the key, is a fixed fact, the American profession may well rejoice that medical literature has had such distinguished success, and the gratitude of the profession is eminently due for it all to Dr. John S. Billings.

STATE EXAMINATION FOR LICENSE TO PRACTICE.—That our country has produced men who have stood in their day, and those who stand to-day, second to none in their respective departments, is no argument in favor of the non-interference doctrine of the State in professional education, True genius, that is, hard, systematic work, knows no bounds, and will throughout time rank with the great in the profession. But the great mass of the people must depend on the rank and file of the profession for medical services, and here it is not only the right, but the duty of the State to demand a thorough professional education and an independent State examination before the license to practice is granted. When the people have come to comprehend this fact, that their interests lie in a rigidly conducted education, and an independent State standard of qualification, it will not be long before American schools are fully abreast, in all departments, with the very best of Europe. The times are indicative of a gradual awakening of the people to their interests in medical affairs.—*Dr. Conrad George, in his Address before the Alumni Association University of Michigan.*

WE sincerely regret to learn that the contents of the office of the editor of the *New England Medical Monthly* were destroyed by fire, and that much material he had prepared for the Medical History of Connecticut was destroyed. We hope to see our friend fully on his feet again, and, indeed, the issue just after the misfortune gave no evidence that the usual course of his most excellent Journal had been in the least interrupted.

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

Thomas F. Wood, M. D., Wilmington, N. C., Editor.

☞ *Original communications are solicited from all parts of the country, and especially from the medical profession of* The Carolinas. *Articles requiring illustrations can be promptly supplied by previous arrangement with the Editor. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the* Journal, *by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to* Thomas F. Wood, M. D., *P. O. Drawer* 791, *Wilmington, N. C.*

THE SPECIAL MEETING OF THE STATE BOARD OF EXAMINERS.

We have previously informed our readers that the Board of Medical Examiners, owing to the large number of doctors to be examined for license, made a special arrangement whereby those who had failed to avail themselves of the provisions of the law could have this extra opportunity to do so. Accordingly a session was held in Raleigh, for the convenience of the doctors in the middle counties, and in Asheville for those of the west.

The Board cannot be too highly commended for their efforts to carry out the law in its full purpose, and as far as they could legally, afford every opportunity to two large sections to conveniently obtain their license.

The official report of the Board may be seen on page 171, and the results may be compared with previous examinations.

The total number of examinations in Raleigh and Asheville was 53, of which 35 were granted license, 11 were refused, and 7 were allowed to withdraw. In estimating the total rejections, the seven allowed to withdraw can rightfully be added to the eleven rejected, as the cause of withdrawal, in most cases, was an early discovery that the candidate was wholly unprepared for an examination.

As was to be expected, the demand of the law upon the profession has created a good deal of inconvenience, but more especially in sections where the persons who called themselves physicians had no other claim to the distinction than the brevet given them by their neigbors, who were willing to permit them to "practice" upon their families. This inconvenience to the people will not last long, and educated men will come in to fill up the vacancies caused by the rejections of the Board, if these gentlemen do not see fit to set about to prepare themselves in accordance with the law. Even if a community should be left entirely without a "doctor" who can guess that blue-mass is composed of aloes and rhubarb,* there would not be any social calamity.

We learn that a considerable number of the applicants were students of only one course, and, in one instance, the applicant had never attended lectures. As far as the elder physicians are concerned, those of them who lived in the remote rural districts twenty-five years ago and longer, it is not remarkable that they should not have had educational facilities, but notwithstandlng this, some of them have developed excellent talents, and are justly eminent in their sections; but for the younger set there is no such excuse, and the law which antagonizes them should be firmly administered. The popular support which the law has received may be estimated by the following facts:

Taking the number of physicians of all kinds in the State at 1,400 (a liberal estimate), and subtracting from this number the legally qualified practitioners, viz: 430, who are members of the State Medical Society, and about 50 who are not, but are licentiates, it would give a remainder of 920. Now, if we look at the number of persons licensed by the Board of Examiners at the three last sessions in 1885, we see that 154 applicants were examined, which is at the rate of about one-sixth of the entire profession. There should be a deduction from the total of 920 (how large we do not know) of legally authorized physicians who are not members of the Society. At any rate, it will be seen by these figures that the day is not far distant when the law will have reached the remotest settlements.

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* An actual occurrence.

One word more: Some practitioners who are pursuing their calling without a license, seem not to be aware that they are guilty of a misdemeanor. It is not as some appear to believe, a matter of optional acquiescence in the law, but an imperative demand, of which it behooves every one to take heed.

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SOMETHING ABOUT SNAKE-ROOT—THE FIRST LEGISLATIVE GRANT FOR A MEDICAL DISCOVERY IN NORTH CAROLINA.

Judging by the list of snake-roots found in the old medical botanies and the new—Curtis naming no less than fifty in his Catalogue of Indigenous Plants—snake-bite antidotes were in great demand. In the Westover Papers* Col. Byrd describes very particularly *Ascyrum Crux-Andreæ*, *Asarabacca* and *Aletris farinosa*, for the cure of the snake-bitten man and beast.

It would seem that the snake-bite antidote was a popular topic in our colonial State, and more of a practical question even than the virus "cultures," which promise so much in these days. And, judging by the occasional offer of a contribution on snake-antidote, and plants reputed as antidotes sent us for botanical diagnosis, we think that the credulity of the people and the profession remains unabated.

Few of our readers, probably, have seen or heard of a book of travels entitled "*A Tour in the United States of America*, by J. F. D. Smyth, Esq.," published in 1784. His "tour" was made while the colonies were in a state of ebullition prior to the revolution, and his travels were confined to the upper tier of counties and as far interiorly as Alamance county. Smyth was a captain in the British army, and speaks of crossing swords with General Nash at Germantown. He was also a very mendacious and ungrateful guest, and very much abused the confidence of the people who entertained him, as his business was evidently that of a British spy. So much by way of introduction, to fix the date of the grant which the "Parliament of North Carolina" made to the first discoverer of an antidote for moccasin bites. Smyth relates the generosity of the "Parliament," and adds, scornfully, that the people, after being apprized of the nature of the great secret preparation, were exceedingly apathetic about using it.

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* Describing the survey for Boundary Line between Virginia and North Carolina, 1733.

It seems that a negro slave had gained the confidence of an over-credulous people by his reputed successes in treating moccasin bites. The mysterious air of Sambo was too impressive to be resisted by the grave law-makers, and a grant was voted of his freedom and £200 if he would divulge it. The historian did not record the incantations and "goofer" by which the lucky negro described his great cure; but the grave assemblage must have been awe-stricken when they were put in possession of the secret that *equal parts of horehound and plantain juice* were the precious remedies. From Sambo to Ferran the succession seems natural, and a cunning insight into human credulity brings more doubloons than ever a life-time of patient toil in the laboratory of a Koch.

CONTINUED FEVERS OF HOT CLIMATES WHICH DO NOT YIELD TO QUININE.

We trust that our readers will pay special attention to the article in this number by Dr. Matas, on the above subject. He has had good experience in that direction, and some of his ideas will doubtless coincide with the observations of others. We would like to make a short supplement to this paper by calling attention to the fact that in some of the cases of continued fever which resist quinine, there comes a time when a decided quotidian or tertian defervescence gives us the signal for a return to the antiperiodic. A case has just been under the writer's treatment in illustration of this point· A boy of 12, living in a highly malarial atmosphere, was attacked with a chill. The fever assumed the quotidian form for the first week. It then took on the remittent form ranging from 100° to 103°, for four days, and then continued at 101° M. to

101.5° E. for two weeks. Up to the second day of the continued form quinine was given at the rate of 25 grains daily, without making the slightest impression on the fever. For two weeks this slight fever wore its slow way along, until it was observed that during the night of the twenty-eighth day of the sickness the patient had copious sweating, and the fever on the next day was gone. On the afternoon of the twenty-ninth day the temperature rose to 103°, and this condition of things was repeated two days in succession, when by precisely the same dosing with quinine as in the beginning of the fever, the fever was readily cured, and convalescence established. These are some of the freaks which malarial fever play, and the deduction from this case, and many more like it is, there is hope of quinine as long as there is a periodical intermission, and little use for quinine where there are no sharp temperature curves. The one thing to be emphasized is that the thermometer should be carefully scrutinized morning and evening, and we do not hesitate to say that the practitioner who is contented to treat fevers and does not use a thermometer, is groping in the dark, and doing damage to his reputation.

CERTIFICATES OF STANDING FOR THE USE OF LIFE INSURANCE SOCIETIES.

The editor desires to say that in the future no certificates as to the standing of a brother practitioner will be given unles he requests it or authorizes it to be made to insurance companies. He does not desire to be considered unaccommodating, but the questions asked by some of these companies go very deeply into the private matters. The doctor who certifies for his medical friend is expected to say when and where he graduated, what "school" of practice he adopts, if he is out of debt, if he is honest, if his habits are good, and many other things that no man would make public unless demanded of him by a court of justice. This will be our response to the insurance companies in the future.

TRACHEOTOMY IN VERY YOUNG INFANTS.

The fact that surgeons who have opened the windpipe several hundred times, look upon this operation as an exceedingly difficult one, is proof that the utmost care is necessary. The danger of wandering from the median line may be partially obviated by having the child's head kept perfectly straight, and by placing the body in exact line with the table. The trachea is sometimes missed because it has not been thoroughly cleared of everything before attempting to open it. The puncture should be made firmly, but guardedly. The size of an infant's trachea will surprise one who has never studied it. Although I have given large and special study to the anatomy of childhood, both from the cadaver and clinically ; my first tracheotomy case died on the table before I could insert the tube, my error being in trying to push the canula too far back. Unless the urgency is great, ether should be given in moderate amount, and the operation carefully performed. A plunge into the trachea is never good surgery ; in infants it would be worse than folly. If a circular piece is cut from the crico-thyroid membrane and cricoid and a pilot used, introduction will be rendered more easy. In fat necks the windpipe may be brought nearer the surface by extending the head far backward, and by grasping the tube on either side and dragging it forward. If fixed thus in the median line, and retained continuously by an assistant, much time will be gained. In a recent case I found it wiser to go above a large, thyroid body, even in a five-year-old child, and insert the canula in the crico-thyroid space. There was afterwards a slight burying of the upper edge of the plate, owing to its high position, but a strip of sheet lead obviated this difficulty. To arrest the venous hemorrhage, just before puncture, hot water sponges answer admirably. After operation, the temperature of the room should be kept above 80°. I have never opened the larynx to remove a foreign body in a very young child, but the universal habit of making the mouth a general receptacle of everything, makes the introduction of such substances exceedingly probable at from one to two years.—*Dr. De Forrest Willard in Obstetric Gazette.*

NOTES.

Presbykousis is a word coined by Dr. Roosa to signify the deafness of advanced age.

A correspondent of the *British Medical Journal* suggests artificial respiration by Silvester's method in the unconscious state of sunstroke, in addition to the usual treatment.

The Medical Chronicle of Baltimore has been merged into the *Philadelphia Medical Times*, under joint editorship of Drs. Rohé and Woodbury, and will be continued under the title of *Medical Times.*

It was thought that the uterus has been attacked from every possible position, and just now it is the turn of the English doctors, who, tired out with pessaries, or finding no shape possible that was not preëmpted, have fallen to taking a reef in the round ligaments for correcting malpositions. Although the inventor of this new operation has been calling at the top of his voice for three years, he has not had an echo from Yankeeland—but the Policlinics are in full blast.

Death of Mr. Henry B. Parsons.—We regret to be called upon to record the death of Mr. Henry B. Parsons, of New York, a member of the Committee of Revision and Publication of the United States Pharmacopœia of 1880. Mr. Parsons' services to the Committee were very valuable. Mr. Parsons died August 21st in Arizona, where he had gone for his health. We believe that this makes the second death since the last general meeting of the Committee.

We are glad to be able to inform the editor of the *Detroit Lancet*, who gave an analysis of the medical colleges whose candidates were rejected by our State Board of Examiners, that since the pamphlet from which he made the quotations was published, a law has been enacted in this State making it a misdemeanor to practice medicine without a license. The law only excepts those who have a diploma from a regular medical school previous to 1880. The penalty is a fine of not less than $25 nor more than $100, or imprisonment for each and every offense.

TERPINE AND TERPINOL.—Terpine is made by mixing oil of turpentine, alcohol and nitric acid, and by occasional agitation for a month or six weeks, it precipitates in large rhombic crystals. Terpinol is prepared from it. It has recently been employed (*Medical and Surgical Reporter*) in the treatment of bronchitis in elderly people, and as a diuretic, properties which oil of turpentine also possesses. Terpinol is eliminated by the lungs, and gives the odor of jasmine to the breath.

ERRORS AND FAULTS.—The hopeless confusion in our editorial in the August JOURNAL was so palpably an accident in handling the type that it hardly needs explanation, yet we regret it very much. In enumerating from memory the Journals favoring the New Orleans defection, we neglected the *Texas Courier*, *Daniel's Medical Journal* and the *New England Medical Monthly*; but before this shall have seen the light, we trust that it will no longer be a matter of importance who should divide the questionable distinction.

The Sanitary Monitor is a handsomely printed monthly, devoted to individual and family hygienics and the public health. It has reached its fifth issue, and shows every evidence that it has come to stay. It is the only sanitary journal in the South, and we are glad to see that the best Southern writers are giving it the support of their contributions. The North Carolina Board of Health subscribes to it for each member of the Board, and County Superintendents of Health could not do better than send $1.00 to J. F. Winn, M.D., Richmond, Va.

STROPHANTIN—A NEW DIURETIC.—*Strophantin* is an active principle, prepared from a woody climber of the Apocynaceæ known under the name of *Strophanthus Kombé* (*British Medical Journal*). It is a crystalline substance of intense activity, and seems to be destined to take an active part in our list of heart-remedies. It is allied in its action physiologically to digitalis. It has been used experimentally upon animals, and clinically in the wards of the Edinburgh Infirmatory. The dose for hypodermic use is from one hundred and twentieth to one sixtieth of a grain. The introduction of this drug serves to commemorate the centenary of the publication of Withering's classical work on "*The Foxglove and Some of its Medical Uses.*"

No case of small-pox has occurred in the German army since 1874. This is due entirely to rigid vaccination and revaccination. The results are very different in the French and Austrian armies.

Rupture of membranes long before labor is reported by Dr. Jas. Brydon (*British Medical Journal*) and the patient delivered of a healthy child. Liquor amnii begun to escape freely January 4th and continued until July 9th.

Cocaine muriate in cracked nipples has answered very well in the practice of Dr. George Mecuen, of Boston. He applies a 4 per cent. solution with a brush, and in five minutes a second application, and the result is anæsthesia of the parts, so that the infant can nurse directly from the nipple or through a nipple shield. It did not interfere with healing.

Removal of calculi from the bladder is the subject of an interesting paper by Dr. James Murphy in the *British Medical Journal.* The patient was an educated architect with a mechanical turn, and succeeded, after repeated attempts, in removing 43 calculi by means of a No. 10 catheter and a large ear syringe. The calculi varied from the size of a No. 10 shot to a large pea, and the most favorable position was on the knees.

Aletris Farinosa Rehabilitated.—An old friend once beautifully introduced by Jacob Bigelow (1817) with a handsome colored drawing, and mildly praised as a tonic ; extolled by Pursh (1814) as a cure for the colic ; by Dr. Cutler for chronic rheumatism ; still more emphatically by Rafinesque (1841) as "tonic, stomachic, narcotic and repercussive"—"it cures the flatulent and hysteric colic, and is said to relieve the chronic rheumatism"—"in fevers it avails speedily" ; by Byrd (1728) as a rattle-snake antidote. Two things have been discovered about it, according to the *London Lancet* (July 4th)—that it belongs to the order of lilies, and that it is a "powerful uterine tonic, far superior to the other remedies employed in uterine disorders." We are glad to see our homely American plant get a "national reputation away from home," and it is too bad to say that it does not belong to the lily family, but to the Bloodwort Family (*Hæmodoraceæ*), and that the Indians, who knew the plant well, always preferred other roots to cure the sterility of their women.

HOW TO PREVENT THE MISTAKES OF DRUGGISTS IN PRESCRIBING.—The sad mistake made by one of the best practical pharmacists in the country, at Hoboken, calls the attention of the public again to some means of preventing them. Besides a distinctive mark for all dispensing bottles containing poisons, and habitual carefulness on the part of the dispenser, and an absolute prohibition of conversation between him and his customer whilst he is compounding, if every prescription is carefully gone over by a second clerk to check any possible error fewer mistakes will occur. The druggist will reply, this is not possible without two clerks, and the public will reply by leaving their prescriptions at the drug store where there is the least chance for error.

MORBID ARTERIAL TENSION is the subject of the *Bradshawe Lecture* by Dr. James F. Goodhart, of Guy's Hospital, London, is a most masterly discussion by a practical pathologist, and if delivered with any spirit, must have been highly successful as an address. In a closing paragraph he said: "It was said in my hearing the other day by one who, saying it, made it well worth the saying, that he did not feel altogether satisfied with his life's work. It was not enough for him to have been in the van of scientific medicine; he would have liked to have been able to say: 'This is my discovery.' In a more general way, I have sometimes thought that medicine is less happy than painting or sculpture, which can have a life's work visibly before it, and point with satisfaction to its numerous creations. There is something in the idea, but it wants in depth. One may well be content to have been in the van; it is a truer evidence of depth than the one discovery. Wherever I go I hear Addison spoken of by his pupils, not as a discoverer, but as a master teacher, whose hold still bends them to an almost reverential admiration. I hear of Bright, not so much as a name attaching to a disease, as that of a man whose observations are worth attention, whatever be their subject. I hear of Latham and of Murchison in a manner; we shall hear of those we may not mention in their presence. Such as these influence their fellows by a power quite independent of their additions to our knowledge."

READING NOTICES.

J. F. Stevens, M.D., of Shabbona, Illinois, states: "*Tongaline* is a valuable remedy, and while of service in all forms of neuralgia, its best effects are seen in treating neuralgias of rheumatic origin. I have not met a single case of this ordinarily troublesome disease which did not get speedy relief, when full doses of *Tongaline* were used. I can recommend it as a prescription which will yield positive results."

——(o)——

Mr. L. Chamberlain:—*Dear Sir:*—The patent Seat sent some four weeks ago has been used ever since in my own service. The idea of the construction is an original one, and the philosophy is sound, based upon correct anatomical principles. I have found benefit from the use of it, and they must prove very beneficial in cases for which they are recommended, and shall take pleasure in giving my approval of the Seat.

Very respectfully,
John Herbert Claiborne, M.D.
No. 30, Union Street, Petersburg, Va.

——(o)——

I have used Celerina for nearly three years in my practice, and have found it all that is claimed for it in every respect. I have made one severe test upon a man who has been a drunkard for fourteen years, who could not sleep unless he had one continual opiate. I discharged him after three months, using nothing but the Celerina in one-drachm doses, two to four times a day. I could cite many other cases, but in closing will say I believe every physician should have Celerina in their offices, and prescribe it in all Nervous Diseases.

James H. Bullard, M.D.
Pacific Junction, Ia.

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ORIGINAL COMMUNICATIONS.

THE CAUSES AND FIRST SYMPTOMS OF MENTAL DISEASE.

A Clinical Lecture, by Dr. Ewald Hecker, Translated with Special Permission of the Author by F. Herbert Hacker, M.D., of Charleston, South Carolina

In cases where an hereditary tendency to mental disturbance is not present, other causes (such as inflammation of the brain, bad food, etc.) may have been at work in producing a weakness and irritability of the brain, which render it more liable to disturbance of its functions, and you will have to constantly watch in such cases all symptoms which point to nervous irritability or mental weakness. Tendency to congestion of the cerebral vessels, intractable headache, neuralgia and other disturbances of sensibility, and above all things persistent insomnia, are but too often the forerunners of severe mental disease. All these things can play the part of a superinducing cause, but it will be more frequently correct to regard them as the first signs of the same brain disease from which arise the physical phenomena. In some cases this discrimination will be very difficult to make, but you must always be prepared for the relatives of the patient to regard the first *symptoms* as the *cause* of his insanity. For instance, a violent mental excitement to which the outburst of the disease is attributed, will frequently resolve itself, when more closely examined, into a symptom of an already morbidly increased excitability and irritability, or as merely the result of an erroneous interpretation of external circumstances. I do not mean by this that psychical influences, especially when they act with great suddenness, or on the other hand, by a long and protracted course wear out and exhaust the nervous centres, have no ætiological importance. However, as is the case in somatic pathology, the chapter on the causes of disease is still a very dark one. Besides the causes we have already mentioned, you will frequently hear as superinducing causes of insanity, poor food, bodily and mental overwork, excesses *in baccho et venere*, disturbances in the circulation of the brain, whether brought about by disease of the brain itself (tumors, apoplexy, meningitis, etc.), or produced by more remote pathological changes—valvular disease of the heart, congestions of the portal circulation, diseases of the uterus, menstrual disturbances, reflex or direct irritation or paralysis of the sympathetic system.

As a rule several causes work together in the production of a psychosis, and we must discriminate here between *predisposing* and *accidental* causes. It is worthy of notice that we frequently observe psychical disturbances after certain diseases of the general system long after the fever, with its accompanying delirium, is over; for instance, after typhoid fever, after pneumonia, cholera, acute articular rheumatism, as also after intermittent fever (frequently as *intermittens larvata*, with intermittent type). I must also not forget to mention that pregnancy and the puerperal state cause a great predisposition to mental disturbance. Many of the causes I have mentioned gain great importance by the fact that, as is the case in hereditary predisposition, they give a certain definite character to the psychosis, a stamp peculiar to it alone. Kahlbaum was the first to call attention to this circumstance by the general remark that psychosis brought about, as it were, reflexly, by an extra-psycho-cerebral cause, are often characterized by a frequent and rapid change in the phenomena, by a varying course and numerous lucid intervals, and not infrequently by the consciousness of being mentally affected. If you therefore find in a case which comes under your observation all these symptoms present. I advise you to make a careful examination of the entire body, directing particular attention to diseases of the different organs, constitutional diseases, cicatrices, exanthemata, etc. Above all things, be particularly careful in your investigation as to the presence of *syphilis.* The mental disturbances produced by this dyscrasia, which frequently run the same course as general progressive paralysis, of which I shall speak later on, are characterized, as Heubner has shown in his excellent monograph "*On the Syphilytic Diseases of the Brain,*" by the imperfectness of the symptoms, the disturbance of consciousness without its entire loss, by the impaired voluntary activity, the "half-sleeping, half-waking, half-dreaming" condition of the patient. Wunderlich, also, in his "*Lecture on the Syphilitic Diseases of the Brain and Spinal Cord,*" calls attention to the "fragmentary" character of these phenomena.

A second very important group, which, under certain circumstances, give rise to very definitely characterized symptoms, is formed by *injuries and wounds of the head.* These are of very great importance and demand a very careful investigation, as it has been shown that they may remain without any evident effect for a long period of time. For many years a creeping inflammatory process may be going on, or an irritation and disturbance of the brain may be brought about reflexly by compression of nerve-endings, which shows itself by a tendency to congestion of the cerebral vessels, great irritability and an excitable, violent temperament, together with a marked inability of the brain to resist external impressions; even small quantities of alcoholic stimulants produce a state of intoxication which may even be characterized by acts of violence or a senseless tendency to destroy everything within reach. In a case which came under my observation the patient (a distiller) had to give up his business because the very smell of the spirits and ethereal oils used in the manufacture of his liquors caused pain and numbness of the head. All these phenomena, as I also remarked of the hereditary form, are characterized by the fact that they commence sometime after the accident, and that thus from a definite point of time a change may be noted in the mental condition of the patient. Frequently you may observe slight paresis of some of the muscles of the face or of one or other of the extremities, and the patient in many cases becomes gradually incapacitated for business, as both physical and mental work cause him violent headache, which is frequently of a decidedly neuralgic nature. The act of thinking becomes more and more difficult for him, and in writing he has frequently to stop from inability to use either his pen or his thoughts. At the same time his irritable and violent disposition becomes more and more marked, and develops finally into outbursts of rage which have all the characteristics of acute mania with loss of consciousness. These attacks, which later on occur spontaneously without any external cause, are sharply characterized by the suddenness and enormous rapidity with which they come on, as well as by the complete lack of all regard to consequences which the patient exhibits in his attacks on persons and lifeless objects. As a rule these attacks last only a short space of time and give way to a feeling of comparative euphoria. I must finally call attention to the exceedingly frequent occurrence of "*epileptoid attacks.*" When you are called to treat a case of suddenly developed psychosis with the phenomena of raving and furious delirium never neglect to examine the head as to the presence of scars, as well as to inquire if epileptoid convulsions have not been observed before the present sickness. Frequently your researches will be successful in one or the other direction.

These *attacks of convulsions*, of which we have just spoken, are frequently the first symptom which creates alarm. A healthy-looking, strongly-built man, who, up to that time, has had no symptoms of existing disease, falls down, has spasms in the muscles of his entire body, his respiration becomes panting, his pupils are dilated. You are called and find him in an insensible condition. Of course you cannot at first form any definite diagnosis without regarding genuine epilepsy and insanity after injuries to the head—it may be either apoplexy or embolism, acute alcoholic intoxication, uræmia, chronic lead-poisoning, and so on, and you will have to take account in forming your diagnosis of all these eventualities, but never forget to think in addition on the possibility of the presence of a form of mental disease, which unfortunately appears to be getting more and more frequent, and which has a fearfully bad prognosis—I speak of *general progressive paralysis*, which is sometimes ushered in by an attack such as the one we have just described, of an epileptiform or epileptoid character. As a rule however, other signs of a developing mental disease have been present before the attack, but only appear now in their full meaning to the friends of the patient on the repeated questionings of the physician. You then find out that the patient complained every once in a while that he became easily fatigued, that his limbs went to sleep, and especially that he was troubled with insomnia, or in some cases of a slight degree of strabismus or ptosis of one eyelid, or of a difference in the breadth or narrowness of the pupils. While you are trying to gain information on all these points the patient returns to consciousness; you now occasionally notice a slight paretic weakness of one arm or leg, which—and this is especially characteristic of general paralysis—disappears in a day or two, or even in a few hours. But above all things you notice now for the first time, unless this symptom was present before, a peculiar disturbance of the patient's speech; he cannot pronounce certain letters; he talks like a drunken man, slurs and swallows letters, or even whole syllables and words. This symptom will become particularly plain if you make the patient repeat some word which of itself offers some little difficulty in pronunciation, such as the word "Constantinople." Here you will frequently notice how the patient stumbles, as it were, and how he vainly endeavors by rapidity of utterance to regain the correct articulation. In many cases this phenomenon is the first symptom of the disease and gives a good *point d'appui* for the formation of a diagnosis. It is usually complicated with a peculiar trembling and vibration of the lips and cheeks, as well as fibrillary contractions of the tongue, which does not, however, deviate to one side on being protruded from the mouth. You may also frequently observe an uncertainty in the movements of both the upper and the lower extremities. Moreover, the patient has a genuine tabetic gait in one or other of its many gradations of development, and is incapable of using his fingers for any purpose which requires delicacy and precision of the sense of touch and nicer coördination of muscular effort. The handwriting of the patient becomes irregular, and he finds difficulty in tying knots, fastening on buttons, etc. Frequently there is still no sign of mental disturbance, and at the same time you can frequently already make the fateful diagnosis with a great degree of probability. It is now your duty to insist on your patient giving up his business and keeping as quiet as possible, and if he can do so, strongly advise his withdrawal to some peaceful country place: for it is still possible that the onset of more severe symptoms may be avoided, or at least retarded. Do not send your patient to a water-cure establishment, or, on account of his tabetic troubles, to a warm bath; you would by such measures only hasten the outbreak of severe symptoms; on the other hand, make diligent search for any signs of concealed lues, since, as I have already remarked, lues is frequently the cause of general paresis, or at least of a disease which runs a similar course and has identical symptoms. If you find any cause to suspect its presence, you will immediately commence a vigorous inunction of ung. hydrargyri im., or administer per orem the iodide of potash, as circumstances may demand; with the iodide you may combine, when any excitement shows itself, equal parts of the bromide. Even in cases where there is no reason to suspect the presence of syphilis, great benefit will be seen to result from the use of these two salts, as the constantly increasing insomnia is very favorably influenced by their employment; often enough, however, you will have to treat this latter symptom with opium and morphine. I advise you to make no use in such cases of chloral-hydrate, as it only favors the threatening vaso-motor paresis, and in this way, as Reimer has shown, leads to the formation of bed-sores.

In most cases the disease runs its fatal course; it is true, many deviations therefrom, as well as apparent improvement, may be observed; the latter, however, is also but of short duration. In the meantime the temper of the patient has been at times gloomy and melancholy, at others he shows decided excitement. He has the consciousness of some approaching disaster, and not unfrequently becomes the victim of a fully developed melancholia, about the general character of which we shall have more to say further on. These periods of melancholy do not usually last very long, and give way then to the megalomania ("*délire des grandeurs*"), so characteristic of this disease. In his megalomania there are also plainly to be seen the signs of a rapidly progressive mental weakness. Frequently the patient passes from the deepest gloom to the most uncalled-for merriment, from being quiet and uncommunicative, becomes all at once talkative and jovial, and betrays in his words and actions a constantly increasing exaltation of self. He commences to form vast plans and projects, throws himself into the most foolish undertakings and schemes, which stand in no sort of relation to his means or station in life—he builds houses, buys up the most useless articles you can imagine, and wastes his money in every possible way. Even now the friends and relatives of the patient have no idea what is the matter with him; they consider him a little excitable, but ascribe it to the speculations he has become involved in. Gradually, nevertheless, the lack of sense in his actions and words becomes more and more evident, and his immorality more and more marked. He becomes lascivious, and sets no bounds to his now unbridled passions, and is even unable to keep within the bounds of social decency. He becomes disorderly in his dress as in his business, forgets the most important matters, mislays or loses valuable papers, and so on, and thus causes himself and others innumerable annoyances, which he does not feel or mind, as he has long since lost all normal sensitiveness. He is frequently absent now whole days from his house, and frequents all kinds of bad society in bar-rooms and houses of ill-fame, and causes finally so much public scandal that, to use a very fitting expression of Neumann's, "he makes himself impossible." The patient ought to have been placed long ago in an asylum, before having ruined his fortune and having so terribly compromised himself and family, and the physician who lets a case get thus far is always severely to be censured. Now even the most uneducated layman can see that the patient is "ripe" for the asylum before suddenly appearing attacks of mania show even him the gravity of the disease. Accompanied by frequent hallucinations (visions of the Deity, etc.), the excitement and megalomania increase in intensity, and the patient passes in quick succession from being a rich man to being a prince, king, emperor, and finally God himself—nay, not content with this, he imagines himself to be superior to the Deity himself. In this late stage, even, a complete remission of all symptoms may occur—a deceitful improvement; sometimes a melancholy stadium may intervene, and is then followed by a sudden onset of apoplectiform or epileptiform attacks, and the condition of the patient is then decidedly worse than before. He becomes a complete idiot—is at times, however, violent; othæmatomata and bed-sores are developed, and the patient dies, either from general marasmus or during one of his "attacks."

A third form of disease in which convulsions play an important part among the premonitory symptoms is *katatonia*, a disease first thoroughly described by Kahlbaum. The convulsions frequently take on a tonic character, and in the form of trismus convulsive attacks, chorea and of laughter and crying, often precede the development of the psychosis by many years. The circumstance that in about half of all cases of katatonia convulsions are present, is at least an important help in forming a correct diagnosis.

Like most other psychoses, katatonia is usually preceded by a stage of melancholia.

By *melancholia* we understand a complex of symptoms, which, as I have just remarked, may be premonitory of many different forms of disease, or may occur in the course of any one of them, or may exist by itself as an independent disease. I consider it as of the utmost importance that you get perfectly clear in your mind this relation of melancholia to other diseases, a relation which is very analogous to that which subsists between a cold and measles. A cold forms the chief prodrome of measles, but at the same time occurs just as frequently as an independent disease. Just the importance a cold has in any given case is often difficult, sometimes impossible, to determine, but other symptoms, such as unusual participation in the process by the conjunctivæ (photophobia and weeping) and a knowledge of the existence of an epidemic of measles enable us to make the correct diagnosis. This is exactly the case with melancholia—you will frequently at first be utterly unable to say whether a psychosis is in process of development, and if so, which one, or whether the melancholia exists as an independent disease. I shall endeavor to give you some points which will be of assistance to you in forming a differential diagnosis, after having given you a short picture of what melancholia is: The word itself is a sufficient definition—a morbid change in the disposition of the patient, the character of which is one of *depression*—not infrequently this commenced as the result of some quite natural and adequate cause (death of a friend, loss of property, etc.), but the unfortunate patient cannot get rid of his depression, he cannot enjoy life again, as he perhaps was formerly accustomed to do; frequently, indeed, what formerly would have made him joyous and happy, has now precisely the opposite effect. Sometimes this depression is the only symptom we observe, and after a few months the patient is cured, but in the majority of cases another very disagreeable and annoying symptom develops itself, viz: terror, anxiousness, which occurs usually in attacks which take their origin, as a rule, from some definite portion of the body, most frequently from the præcordial region, and can produce, in case the pain is unusually severe, a state very nearly comatose, and in which the patient becomes violent, tears and destroys everything he can lay his hands on, and even makes attempts on his own life and on that of others. He believes that he is being pursued, that his life or health is in danger, and that he is near starvation, or else he considers himself the most degraded and abandoned being, who is now tormented by his evil conscience, and accuses himself of crimes which he has either never committed or which at most are but slight peccadilloes. Terrifying hallucinations of hearing, of sight and of the other senses soon set in, while the patient sees at the same time in the circumstances and conversations which take place around him innuendoes and constant allusions to himself. The nature of these hallucinations and illusions varies greatly, and on the whole may be said to depend more on accidental circumstances than on the character of the disease. It is therefore useless to enumerate the different varieties, as fear of pursuit, of poisoning, etc.—with more reason we can distinguish, with respect to the degree of the accompanying excitation a *melancholia activa* and a *M. passiva.* In many cases which we then call *genuine* melancholia, or, according to Kahlbaum (who thus avoids the confusion arising from one name being applied to two different things), *Dysthymia*, the mental condition of the patient, remains pretty much the same, i. e., depressed, until finally, after months, or sometimes after years, a cure occurs or a certain degree of idiocy (always very slight) is developed. On the whole the prognosis of genuine melancholia is favorable.* The diagnosis is pretty easy to make if, after two or three months, no change has taken place in the condition of the patient, or if none of the specific signs of the other psychoses are present, which we will discuss a little further on.

As to treatment, I advise you to place a patient who has marked exacerbations of his condition with attacks of terror, in an asylum, and to have him carefully watched, especially if you have any reason to suspect the existence of suicidal impulses, which, as I have already remarked, are so frequently present. Opium in increased doses forms the chief portion of our internal treatment (0.05 pro dosi twice a day, to commence with). In most cases it acts with great readiness and rapidity, especially in getting rid of insomnia. You may boldly increase it by 5 centigrammes every week, but I advise you, as the patient cannot get proper care and watching in his own house, not to go beyond 0.3 (!) Morphine injections also act frequently like a charm, but have the unpleasant disadvantage that the patient very rapidly becomes accustomed to their employment, and their deprivation often causes a relapse. Never give the friends or relatives, still less, of course, the patient, the hypodermic syringe, unless you wish to see the most dangerous and disastrous consequences.

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* See paper by myself in February number of this JOURNAL.

Before all things make it in all cases a rule to examine your patient thoroughly as to the presence of any somatic trouble, and make your first attack on this. By using some preparation of iron (avoiding, however, ferruginous waters containing large quantities of carbonic acid), light purgatives (excluding salina), some bitter and easily digested nourishment, you will frequently be able to cure melancholia without resorting to opium or morphine.

Quiet, gentlemen, I must again tell you, is a *conditio sine qua non!* It is a sad fact that, despite the unfavorable experience of thousands, and the warning voice of opiates, so many patients are advised, even by their physicians, in the most irrational manner, to seek distraction, and though they long for that rest and quiet which is so essential to their physical and mental well-being, are forced into undertaking long journeys for the sake of "travel," and driven sometime by sheer force into society, parties and theatres. Even in his own family the patient can rarely find the requisite amount of rest which he can only comfortably enjoy in an institution specially adapted for the cure of the insane. Use your utmost endeavors, gentlemen, to root out that unhappy prejudice against institutions of this nature, and commence by convincing yourself of their efficacy and the way in which they are conducted. In a small brochure published in Berlin in 1876, "*Directions for the proper cure of the insane and weak in mind before and after their domiciliation in an asylam,*" I have collected all the facts relating to this question, and I refer you to it, as I cannot speak more fully on this subject on the present occasion.

I have already mentioned the fact that in the melancholic stadium of the different psychoses very often characteristic differences may be observed, and that in the melancholia which precedes general paralysis we may frequently detect traces of an increasing imbecillitas, and that we frequently meet with hypochondriacal ideas which reach their climax in the belief of the patient that he has lost one or the other of his extremities, or that portions of his body have undergone change; he maintains that he has no head, no stomach—that the food he eats does not reach the stomach because his œsophagus is stopped up, etc., etc.

In many cases of *katatonia* the predominance of religious delusions is very characteristic; moreover, a certain stiffness may be noted, even in the very early stages of the disease, and which, in its highest development, leads to the condition known as *melancholia attonita*, which itself is very often accompanied by a well-marked *flexibilitas cerea.* The patients sit or stand for hours on the same spot, in the same position, which not infrequently is a very uncomfortable one; they say nothing at times for entire days (mutacismus), and on the other hand, are remarkable for the constant repetition of some stereotype phrase or expression. They have also a leaning to, and fondness for, dark, mystic speeches and symbolical actions; and corresponding to this quality of their mind, a seeking after mysterious and secret references and meanings in the words, movements and actions of others. Finally, they are remarkable for their obstinacy and resistance against everything they should do, and frequently refuse to eat, and have to be fed with the stomach tube. Out of this stadium melancholicumis developed the *stadium maniacale*, about which I shall have something to say later on.

In another form of disease, described by myself, and called by Kahlbaum *hebephrenia*, the melancholic stadium has quite another character. Beginning almost constantly after puberty, between the 18th and 22d year, with melancholia, the disease is, as it were, a relapse into the childishness and foolishness of early life. Even in the melancholic stage the silliness which reaches the extremest limits can be already noticed, and is usually very prominent. The patient complains of his misfortunes and the persecutions to which he is subjected, but the smiling face causes us to think involuntarily that he does not quite believe himself in everything he complains of. Gradually the melancholia becomes less and less marked, and the stadium of "silly excitability," to use the most expressive term, gains the predominance.

I have now to call your attention to the fact that the melancholic prodromic stadium of psychoses is often misunderstood or overlooked, either because of its not being characteristically developed (at least to the eye of the laity), or because there really may be some actual cause for mental depression. In such cases the family of the patient is not infrequently aroused to a true appreciation of the state of affairs by an acute attack of maniacal violence, while on close questioning it becomes evident to the initiated that it is by no means a case of acutely developed insanity, but that the patient is already in the second stage of his disease. At the same time, however, there are cases, though they are less frequent, where the disease does begin with an attack of mania.

Mania, by which we understand an aggregate of symptoms, never a definite form of disease, is characterized by a happy, merry temper (which can, however, change into the very opposite—rage, anger, etc.), and an irritability of ideas and quickness of thought, which finally leads to confusion and the so-called flight of ideas. This is combined with a morbid irritability of the will, which causes at times the greatest violence and destructiveness. Mania is thus in every respect the opposite of melancholia. While in the latter the predominant symptoms are depression of the mind, of the will and of the power of idealization, in mania there is a general exaltation, which, it is true, is also capable of the most varied modifications.

Mania also shows in the different psychoses certain characteristics, such as I have already mentioned, when speaking of general paralysis, of hereditary insanity and of insanity after injuries to the head. To speak of all the psychoses in which mania forms a symptom, would lead us too far and occupy too much time. I only wish to mention one other form of disease in which the maniacal stage shows likewise certain peculiarities, but which is specially characterized by the fact that there is a complete periodical change between melancholia and mania. The melancholic stadium has no marked peculiarities as regards the mental symptoms, but, as L. Meyer has observed, and I partially concur in his opinion, there is frequently a failure of nutrition, that the patients lose a great deal of flesh, particularly in the face, and look thin and emaciated, in contrast to the unusual increase in weight and nutrition during the maniacal stage. The mania, in its psychical manifestations and in the conduct of the patient, reminds one of the *délire des grandeurs* of general paralysis, but on the other hand, the imbecillitas so common in progressive paralysis, is in this case entirely lacking; on the contrary, the patients show rather an increase of their mental functions, so that they show all the symptoms of *folie raisonnante,* of which we have already spoken. Unfortunately, they make use of their exalted mental powers for the purpose of worrying and tormenting their friends and relatives, and are most happy when everyone and everything around them is in anger and confusion. Really insane ideas are usually not present, and when the patients become violent and destructive they seem to have their full consciousness. Everything they do seems to be so voluntary and spontaneous, that this disease is often misunderstood, especially as long as the excitement does not exceed a certain limit. The patients are thus capable of committing the greatest amount of evil and compromise themselves and family in the most unfortunate manner. Nymphomania is a very frequent symptom in women, and leads at times to the most unpleasant complications. If, after a time, the melancholy stadium again begins (occasionally after a period of apparent health), the laity take it as occasioned by remorse for the excesses of the maniacal stage.

On the treatment of mania I shall have little to say, especially as external circumstances require of themselves that the patient should be put into an asylum. I warn you, however, against all weakening and derivative cures, such as were formerly in vogue—such as phlebotomy, blistering, nauseating drugs, etc. You would only by such a procedure do harm and reduce the strength of the patient, which of itself becomes weakened in the progress of the disease. To procure rest for the time being, you can make use of morphine injections and chloral, but they will both be frequently of no avail. Endeavor, if at all possible, to keep the patient in bed; in this way you will more easily keep him quiet.

In conclusion, I have another form of disease to mention, in which there is neither a melancholy nor a maniacal stage, and in which the whole process limits itself to alterations in the powers of idealization and reasoning, and which is further characterized by the presence of a so-called fixed idea. This is what is termed *paranoia* (*Verrucktheit*). Many cases in which apparently there are isolated illusions, may frequently be detected to be other psychoses, imperfectly cured and in which the previous course of the disease and the imbecillitas render the diagnosis certain. Paranoia is merely a complex of symptoms in these cases. Real paranoia has, as I said, no melancholic and no maniacal stage, and at the same time never degenerates into idiocy. Although the ever increasing range of the morbid illusions renders eventually the paranoious incompetent to live and get along with his fellow men, still at the same time his mental powers are not weakened *in toto.* I have, for instance, at the present time, a patient engaged in the study of the Sclavonic languages, a subject formerly altogether new to him.

With this, gentlemen, I close my short résumé on the Causes and First Symptoms of Mental Disease. If I have exceeded at times the strict limits of the subject, I call your attention to the fact that it could not have been, from the very nature of the case, my intention to describe exhaustively all possible forms of psychical disease. If you wish to press still further into this field, you must observe patients yourselves, and read up more fully psychiatricial literature. To-day's lecture is only intended as a help to you in forming an opinion on the cases most frequently met with in practice.

OPIUM HABIT IN THE NEGRO.

By J. D. Roberts, M.D., Goldsborough, N. C.

A few months since application for the admission of a colored insane man into the Eastern North Carolina Insane Asylum was made from one of the western counties of the State. It was alleged that his insanity was caused from the opium habit, he using —— grains daily. A note from the physician examining the patient, added to the papers in the case, stated that this was the only case of opium habit he had ever seen in the negro, which caused me to make some inquiries on the subject. The case was received and treated in the Eastern Insane Asylum by entire suspension of the drug and generous diet, tonics, etc., with excellent results. His mental condition was improved in a few days, and in one month he had no desire for opium, and his mind was entirely restored.

So far I have heard of but three well authenticated cases of opium-eating in the negro, two of which were given me by Dr. J. L. Thompson, of the South Carolina Lunatic Asylum, and the third is detailed above.

We can see some reason why the colored man is not as susceptible to the habit as the white. He has not the same delicate nervous organization, and does not demand the form of stimulant conveyed in opium—a grosser stimulant sufficing.

The opium habit is contracted, in a majority of cases, from the physician's prescription being too long continued, either from carelessness or inattention on his part, and often unfortunate information as to what the medicine was which produced such results. In the country and smaller towns of our State this habit is not so liable to follow its prescription in the negro, first on account of his general ignorance, and next from his poverty, as well as from the less desire he has for this form of stimulant. In the large cities, especially the Northern ones, where the financial, social, and we might say, the *nervous* condition of the negro, are of a higher scale, we may find the opium habit more prevalent. As it is a known fact that the advances made in the negro as a social being are bringing with them evils in the way of diseases incident to a higher civilization. Information on these points is desirable as a closer or more extended study of the subject may show other reasons for so little of the habit in the negro.

An indulgence in the opium habit brings with it certain changes of character as to honesty, veracity, etc., and in the only case under observation the habit in the negro differs nothing in this particular from that in the white race.

Dr. J. B. Mattison, of Brooklyn, New York, lays much stress on the fact that most cases, in fact, nearly all, of opium habit originate by commencing its use for the relief of pain, generally of a neuralgic character, and we know that the negro, owing to his lower nervous development, is not liable to diseases of this character.

These few paragraphs are written with hope of obtaining other information on the subject through reports of cases of the habit in the negro, or expression of opinion from members of the profession in a position to judge.

CORRESPONDENCE.

RUTHERFORD COUNTY AS A RESORT FOR PHTHISICAL PATIENTS.

Rutherfordton, N. C., July 14, 1885.

Dr. Thos. F. Wood, *Editor North Carolina Medical Journal:*

Dear Sir :—During the last twenty years I have often been impressed with the fact that persons who come to this county suffering from pulmonary disease, soon commence improving, with little or no medical treatment. It is also a fact that sons and daughters who inherit predisposition to tubercular phthisis get the taint from one or the other parent who came here with the disease fully developed. At an early date after I began the practice of medicine here I noticed that pulmonary consumption was exceedingly rare, and that hereditary tubercular phthisis *in natives of the county did not exist.* It is true, as it is remarkable, that the ancestors of all the families who are called "consumptive" came here from other sections. Some of these ancestors married natives of the county, lived to raise large families of comparatively robust children and died of pulmonary disease, having passed the meridian of life by a number of years. Many grandchildren of these ancestors are among the healthiest and most robust in the county. I have under observation now three families of grandchildren who have no indication whatever of the tubercular, scrofulous or cancerous cachexia ; indeed, they are entirely free from tendency to malignant disease.

In nine-tenths of all cases of destruction of lung tissue I have met here the cause can be found in neglected pneumonia, bronchitis, bronchial catarrh, etc., without any history of, or cause to suspect, hereditary tubercular taint. These patients almost invariably have excellent family history, most of them are passed middle life, and they were when first attacked thoroughly dosed by the most ignorant "quacks." I have known many instances of restoration to comparatively good health follow infiltration, caseous degeneration, suppuration and discharge from the lung.

I have now under observation sons and daughters and grandsons and granddaughters whose ancestors are known to have had tubercular phthisis (hereditary) when they first came here. The sons and daughters, many of them now passed the meridian of life, are stout, healthy and show no other sign of inherited phthisis than a slight approach to the phthisical physique in some of them, and more than ordinary susceptibility to bronchial and other catarrhs. The grandchildren show no indication whatever of the tubercular diathesis; indeed, where there has been no intermarriage of consumptives, there are no indications of constitutional vice of any character among them.

Persons who come here on account of lung troubles, so far as I have been able to ascertain, always improve, and if under my care, with but a small quantity of medicine. I can refer to many cases in point—among them is a gentleman sent by a prominent physician from Chicago to Hendersonville five years ago. He had colliquative sweats, profuse purulent expectoration—in a word, he had hectic fever, with its concomitants, when he left Chicago. He found the climate too cold and changeable for him west of the Blue Ridge; he came to this county and began to improve in a few days. He has for two years been discharging the duties of Internal Revenue Collector. I have many similar instances.

The cause for such facts must be sought in climatic, topographical and other physical influences. If you will examine Prof. Kerr's new map of North Carolina you will notice that this county lies in three sides of a quadrant formed by Tryon Mountains on the south-south-west, the Blue Ridge on the west, and the South Mountain range on the north and northeast. Four rivers and a great many large creeks take their origin in this vast cove; smaller creeks and branches are abundant all through it; indeed, this cove contains more pure, fresh, running water than any section of equal size that I have been able to hear of anywhere, and there is absolutely no stagnant water here. The average elevation above sea-level is about twelve to fourteen hundred feet; the surface is hilly, the streams have so much fall that it is impossible for material productive of malaria to accumulate; the forests have been well preserved; balsams, pines, cedars, spruces, etc., abound in the hills, and there are immense bodies of primitive forest yet untouched; the soil is very fertile and naturally well drained; the air fresh, cool, exhilarating, sweet with balsams and pure as ether; the water cold, free, sweet and clear as crystal; insect pests are scarcely known to exist—reptiles only in the rocky cliffs.

In a practice of twenty years here, extending to all sections of this immense cove, I have not seen a case of intermittent fever, nor one more closely approaching remittent than may be observed in ordinary continued fevers during the morning hours.

We have a high, dry, light, elastic atmosphere entirely free from malarial or other contamination, and a more equable temperature than is known anywhere the same distance from the depressing heat of the tropics. The winds from the colder points of the compass are broken up by the mountain ranges surrounding us and thrown into the higher atmospheric currents. I had a striking illustration of this fact in the spring of 1884—a cyclone that came from North Georgia was thrown upwards by the high ranges west of us; it did not reach the earth again for about thirty miles this side of the Blue Ridge, where it struck an elevated plateau in the northeast corner of this cove and eight miles west of Cherry Mountain, a spur of South Mountain, which again diverted it upwards, to descend again near Newton. It caused frightful destruction near the mountain-top. We have no steady winds from the cold quarters—occasional winds of a few minutes duration in winter, and from gentle to brisk mountain breezes in summer, is about the history of our winds.

From careful observation, embracing twenty years practice, including a large consultation practice in all parts of this remarkable locality, I am prepared to affirm that there are combined here most powerful influences that antagonize the development and progress of tubercular phthisis, that in the present state of medical knowledge the climatic, atmospheric and topographical conditions most favorable to phthisical patients are known to exist here, and from careful clinical observation, that hereditary predisposition to tubercular phthisis decreases from parent to offspring, and that where there is no intermarriage of consumptives the hereditary taint is eradicated from the third generation, and but feebly developed in the second generation. I do not base my assertions upon the history of a few, but upon many cases and instances.

If there is anywhere a refuge for the victims of that most dreadful scourge of the human race, tubercle, it is here. Nature, in ordering the "eternal fitness of things," must have fitted up this grand mountain cove as her sanitarium, her house of refuge for the victims of tubercular phthisis. The fact that residence in Western North Carolina is beneficial to consumptives has long been known; Prof. Dickson refers to it in his work on practice. For years that class of invalids have resorted here, but a very large majority of them have gone west of the Blue Ridge, where they have been exposed to the cold, humid winds of the north and west, from which they would have been entirely protected here on the eastern and southern slopes of the Blue Ridge and South Mountains. From a short residence there I was soon convinced that the winds were too cold, the atmosphere too humid and the vicissitudes of temperature too great, too sudden and too frequent for the delicate tissues and sensitive organizations of phthisical subjects to endure with impunity; subsequent observations sustain me.

My treatment is embraced in a word—*nutritive*—clothing to protect, not cumbersome. Patients who wear substantial cotton garments next to the skin, with woollen overwear, do better than those who wear heavy flannels; their skins are more easily and uniformly kept warm, soft and suple, without being clammy and spongy, as with those using the flannels. I have better results from rich sweet milk, milk-punch, egg-nogg, fresh butter, beef, mutton, poultry, corn-muffin, oat-meal preparations, etc., than from cod-liver oil, hyphosphites, commercial foods and the like, all combined. Plenty of exercise in dry open air is imperative. Intercurrent catarrhal attacks yield readily to light remedies. Troublesome diarrhœas are very seldom seen here at any stage of phthisis.

I will be glad to correspond with the profession or others on this important matter. We are now without railroad connection with the outside world, but the Charleston & Cincinnati Railroad, now under construction by the Massachusetts and Southern Construction Company, will pass through our county.

Very truly yours,

OLIVER HICKS, M.D.

SELECTED PAPERS.

THE CURABILITY OF CONSUMPTION.

In an article on pulmonary phthisis in the *Medical Record* of the 22d ultimo, Dr. J. Milner Frothergill, of London, makes the somewhat startling assertion, based on an experience of ten years in a chest-hospital, that the disease is far from being necessarily fatal. Under fairly favorable circumstances, he holds, a rally may be made in the large bulk of cases, which may lead to recovery. This is certainly glad tidings, and a detail of the means through which this consummation may be reached, will be eagerly read. It is customary in acquainting the patient of the fact that he has consumption, to do so in a tone and manner calculated to shut out from him the faintest ray of hope. Treatment, moreover, is usually undertaken with a view to euthanasia, rather than with a hope to snatch the brand from the burning. If, therefore, Dr. Fothergill has put it in our power to tell the consumptive that the odds are in favor of his outliving his disease, he will prove to have been one of the greatest of the benefactors of this and succeeding ages. He does not propose anything particularly new in the way of treatment, nor does he vaunt any specific. His common-sense application of means already familiar will, however, commend themselves to the attention of the profession.

The line of attack advised in incipient cases is to improve the general condition, in which improvement the new growth will have its share. To check the body expenditure and to increase the body income are our aims. All outgoings must be stopped. This is the first step. If a woman, attend to any leucorrhœa at once. Many a good line of attack has failed, many a woman sunk into her grave who might have been rescued, if only that outgoing had been attended to. If the catamenial loss be heavy, put an arresting finger upon it by some ergot, sulphuric acid and sulphate of magnesia, commencing with this two days before the appearance of the flux, and continuing it during the flow, reverting to the usual treatment on its completion. Then, is there diarrhœa? If so, attend to it. Milk and farinaceous matters are indicated (no meat-broths no beef-tea—"giving the patient a stone when he asks for bread"—unless some farina be added). Then for medicine some astringent preparation of iron may be given in the day, and a pill of sulphate of copper (gr. ¼½ with opium (gr. 1–1½) at bed-time. If there be both diarrhœa and night-sweats this pill will often "kill two birds with one stone."

If there be night-sweats, arrest them at once, or as soon as may be. Sweat is an excretion, and is highly charged with blood-salts. Consequently, profuse sweats are most exhausting. Check them, and the appetite returns, and between the two the patient does well. Prof. Sidney Ringer, F.R.S., has laid the phthisical world under a deep debt of gratitude by pointing out the potency of belladonna in the matter of hydrosis. The best preparation is atropine, not only because it is tasteless, but because we know exactly what we are doing when using it. But to secure its good effects it must be pushed. Its effect upon the pupil is nothing. Indeed, in a very extensive experience of belladonna the pupil has rarely been affected. (The effect upon the pupil is a bug-bear which ought to be buried.) Dry throat and dim eye-sight are discomforts, but unless severe they need not disturb the treatment. There is a wide gulf between these and any real danger. The very lowest dose is 1-75 of a grain. If this does not achieve the desired end, then 1-50. If that is not sufficient, then 1-25. If that fails—which it rarely does—one must begin to look seriously at the case. When this dose is reached, and yet the sweats continue, Dr. F. adopts the plan of an old New York quack, of which Lewis Sayre told him, viz: to sponge the patient over with hot vinegar (½ pint) with a teaspoonful of cayenne in it. This is not at all disagreeable, and is effective. If the combined measures fail, the patient's case is hopeless, but his physician's conscience is clear.

Perhaps the patient's rest is broken by cough. Dr. F. recommends the following combination in such cases: Morphine (gr. ⅓), atropine (gr. 1-30), with pil. galban co. or "pil. al. et myrrh.," as the case may require. This is a pill which has done him yeoman service in his warfare with phthisis. It has found its way into the Brompton Hospital, and more recently into Squire's "Companion to the Pharmacopœia." It will, he thinks, find its way before long into every consumption hospital in the world. This action of carbonic acid upon the sweat-glands has led Dr. Lauder Brunton to advocate strychnine (a potent stimulant to the respiratory centre) in the night-sweats of phthisis. No doubt it is useful. Dr. F's practice is to give it in the day-medicine. His favorite mixture at the hospital consists of liquor strychnine (♏iv.), acid phosph.) dil. ♏xv.), tinct. capsici (♏iv.), in infus. gent. (ʒ j.), *ter in die.* This forms a capital tonic. Some quinine or sulphate of magnesia (or soda) may be added as required.

One of the rules which have formed themselves in his mind is to give acids when the tongue is clean or coated. When the tongue is bare, raw or irritable, then alkalines are indicated as am. carb. (gr. ij.–iv.), tinc. nuc. vom. (♏x.) inf. gent. (℥ j.), *ter in die.*

On such a line of treatment the patient usually improves. The night-sweats cease, the appetite returns, the cachectic look departs, and the patient feels much better. The improvement is maintained, and soon iron and arsenic can be added to the strychnine, and cod-liver oil to the dietary (but cod-liver oil is not the best form of fat, nor yet the most palatable, though it is the most digestible. Some forms of fat in an emulsionized state are now on the market, which possess many advantages over cod-liver oil). Iron is a good hœmatinic.

Arsenic is an alterative and a tonic greatly believed in by many good observers in lung-consolidation. If the patient can be induced to take fat in any form the healthy tissues can be built up. Very commonly the affected area is found to shrink and air to pass into it. In a few months, in many cases, it is scarcely possible to detect any change in the lung. The threatened danger has passed away!

All along in the treatment advocated the matter of improving the general condition has never been lost sight of for a moment. If the patient can get away to a dry soil and a bracing locality, all the better for him or her.

Another common patient is the person who has chronic phthisis with cavities. Such patient is always spare and badly nourished at the best; and when any intercurrent ailment still further lowers the general condition the lung trouble is aggravated. (And one matter has forced itself upon his attention, viz: that wherever there is old lung-consolidation any disturbance in the liver sets up irritation in this consolidated patch with resultant cough. And this cough, which is intractable to ordinary cough-medicines, is relieved by acting upon the liver.) The appetite has fallen off and the nutrition is impaired; and then the special danger in phthisis is set up. Very often the tongue is raw, or beefsteaky, or patchy. Here attention to the *primæ viæ* (as our grandfathers phrased it), is imperative. The patient must be sent to bed, to reduce the body expenditure to the minimum. The medicine must be bismuth, with alkalies; and the food, milk with malt extract, or a malt preparation like Mellin's food, in small quantities at a time, oft-repeated. No solid particle in the stomach to vex and irritate the sensitive (because ill-fed) mucous membrane. Even an alkali—like carbonate of magnesia—may be required to neutralize acidity and prevent too firm curdling of the milk; as much as will lay on a sixpence to the half-pint of milk is usually sufficient. Having got the assimilating processes into good working order, the tonics may be given. "The more haste the less speed" is especially true of the treatment of phthisis; and the desire to push on with tonics and good food sadly too often defeats its own end. Sometimes a masterly inactivity is the wisest practice. A clear head and a firm will are often required to curb the desire of the patient (and still more the patient's friends) to be getting on. Back-cast after back-cast teach a painful lesson to the medical man, and involve the patient in acute danger. If the pressure put on a young medical attendant is becoming more than he can bear, let him call in an older head to help him.

The chief thing to avoid is morphia linctures for the cough. An opiate to procure sleep may be essential and unavoidable; but sedatives in the day are dangerous. They give relief from the cough, but too commonly they give permanent relief by death. Opium lays its palsying hand upon the assimilative organs and destroys the appetite. Its evil effects seem most distinctly felt by the liver. When an opiate is indicated at night, it should be combined with ipecac to antagonize its effect upon the liver, and with aloes and myrrh pill to correct its action upon the bowels. Opium strikes directly at that assimilation which is the cardinal matter in the treatment of phthisis. The patient most certain to die, the case least amenable to any treatment, is that one whose wasting progresses steadily, and where the lungs are only affected quite on—indeed, a brief while before the final change sets in.

As to other means of allaying the cough than opiates, inhalations of steam are often serviceable. Friar's balsam, iodine, carbolic acid, terebene, eucalyptus, all are good as additions to the steam. Where there is a cavity with ragged walls smelling offensively, a respirator with cotton wool charged with carbolic acid is indicated.

Then, as to other means of feeding the patient, there are inunctions of oil, often of service, especially with young subjects. Nutritious enemata have only lately suggested themselves; but in one case of a medical man steadily wasting, an enema of cod-liver oil (emulsionized by a drop of bile) and milk in equal quantities is being tried. In appropriate cases in the hospital the plan is about to be tried. Such enema night and morning, while in the recumbent posture, would be readily retained. When the temperature mounts up, and especially when the skin is also moist (the usual state in hectic fever connected with phthisis), Dr. F's plan is to give quinine (gr. ij.–v.) with tincture of digitalis (♏. x.–xv.) and dilute phosphoric acid (♏. xv.), thrice daily. The effect is very satisfactory usually. Where a severe raking cough is present, shaking the poor sufferer terribly, it may be necessary to give opiates; but in the author's experience such cough is very rarely found with pulmonary phthisis.

The treatment of hæmoptysis is quiet; no movement, no talking. When it arises from the bursting of an aneurismal sac in a cavity, or from an ulcerating process eating into a blood-vessel and opening a communication between the vessel and an open air-tube, syncope alone is likely to arrest it. In congestion of the lung it is often an excellent form of local bleeding. Men of old bled for its relief; now free purgation with mineral salts is in vogue. For small recurrent hæmoptyses the best treatment is to keep the bowels open. Ice, ergot and dilute sulphuric acid may also be tried; probably they will do no harm. It is a bad plan to feed up a case of recurrent hemorrhage; it only fills the vessels rapidly, to end in more bleeding.

Finally, the management of phthisis pulmonalisis, whether the less grave or the more serious conditions, is a good test of the knowledge, skill and tact of the practioner, who must, like a competent soldier, be able alike to plan a campaign or execute a sudden change of front in an emergency. That is, he must be able to lay down a persisting plan of treatment, and promptly change his plan to meet some intercurrent condition, as hæmoptysi or acute gastric disturbance.—*Medical Age.*

NOTE ON HYDRO-BROMATE OF HYOSCINE.

By H. C. Wood, M.D.

Since my last communication to the *Gazette* I have used hyoscine in a number of cases with confirmatory results to those previously reached, and at the same time a more complete outlining of the limits of the usefulness of the drug. The dose by the mouth which is necessary is somewhat larger than I had at first supposed, most persons not being distinctly affected unless by 1-80 of a grain. A new field of usefulness seems to be in cases of spermatorrhœa, and I have only had the opportunity of using it in three or four cases; but the results have been uniform, and much more correct and assured than those I have ever seen reached by any other drug. Thus, in one case in which the discharges averaged about three a week, they were completely arrested by the exhibition of 1-75 of a grain every night. Unfortunately, the effect is not at all permanent: so soon as the drug is intermitted the tendency appears to recur. Whether long-continued use of the drug will have a lasting effect or not I am unable at present to say. Indeed, the number of cases which I have myself seen is too few to warrant a positive conclusion; but at my suggestion, Dr. Robinson, physician to the Eastern Penitentiary, Philadelphia, has been testing the drug on the convicts, the disease being exceedingly frequent among them. He informs me that its results have been surprisingly good, and promises a definite statement to the readers of the *Gazette* in the future. It is interesting here to remark that one of the most successful cases of the use of the drug was seen in a female suffering from erotomaniacal symptoms.

As a soporific the drug is especially successful in those cases in which the insomnia is due to excessive cerebral action—cases in which there is a perpetual and uncontrollable succession of thoughts. Allied to this form of insomnia is the mental condition in which the sleep is excessively disturbed by urgent dreams. This, also, I have seen controlled by hyoscine. In one or two cases of intense fever with delirium the hyoscine has seemed to act very well in controlling the delirium. In two cases the symptoms have been such as to suggest that the drug exerts a paralytic action upon the recurrent laryngeals. One of these cases was in the person of a maniacal female, in whom the hypodermic injection of a large dose of the salt was followed at once by a paroxysm of suffocation apparently paralytic and laryngeal. The second case occurred in a child about ten years old suffering from very violent anginose scarlet fever with moderate laryngeal dyspnœa. Hyoscine was prescribed for the excessive insomnia which had lasted from the onset of the fever, with very good results so far as the somnia was concerned; but so soon as the child came under the influence of the drug the laryngeal symptoms increased with very great rapidity, and in the course of an hour or two death resulted. Whether the hyoscine was or was not the cause of this increased dyspnœa is of course uncertain; but two cases are assuredly enough to arouse suspicion.—*Therapeutic Gazette.*

A SUBSTITUTE FOR SENEGA.

Of all the well-marked expectorants which are used in the treatment of cases of emphysema, senega root occupies the first place; and although not only here, but in the second stage of acute bronchitis, in chronic pulmonary catarrh, and the latter stages of pneumonia, it produces often valuable effects, it unfortunately has a very bad taste, is expensive, and often produces intestinal irritation. Dr. R. Kobert (*Centralblatt für klin. Med.*) has found that this drug contains two glucosides which are in different proportion in different specimens of this drug as found in the market, and he has further found that in the market, and he has further found that in the quillaja bark (Quillaja saponaria molina) these two glucosides are present, and in almost five times the proportion in which they are found in senega; and since this quillaja bark is ten times cheaper than senega root, the same amount of active substance is fifty times cheaper than in the case of senega. Moreover, the amount of glucosides present is a constant one, and the bark contains a considerable quantity of sugar, which gives the decoction a sweet taste, and which renders it further free from the disagreeable taste of the senega decoction. On these grounds Dr. Kobert was naturally led to test its employment therapeutically; and the results of numerous observations have shown him that patients bear this article better than senega, that it very seldom produces vomiting or diarrhœa, that the sweet taste leads to its being readily taken by children, while its expectorant action stands beyond all question. The mode of administration which he employed is in the form of a decoction of five parts of the bark to two hundred of water, taken by the tablespoonful by adults and the teaspoonful by children. Dr. Kobert states that ulcers or inflammation of the intestines or stomach are contraindications for the use of this drug, since its rapid absorption by portions of the intestinal tract which have lost their epithelial coating, may readily produce symptoms of poisoning. If taken dry, even when mixed with sugar, the powder nearly always produces coughing. It is to be hoped that these results will be generally tested, as a powerful and safe expectorant is certainly greatly needed.—*Therapeutic Gazette.*

HOPEINE—(ALKALOID FROM HOPS.)

This alkaloid, which appears to be different from the lupuline of Griessmeyer, is said to be most abundant in the American wild hop. It occurs as a white crystalline powder, or in the form of needles a third of an inch long. It is very sparingly soluble in water, but dissolves freely in alcohol, the solution having the most intense bitter taste and a pronounced smell of hops. Chemically it bears a close resemblance to morphine. In its physiological action it is a pure narcotic, even fatal doses producing no irritant effect; but it contracts the pupil, raises the temperature and increases the frequency of the pulse at first, but afterwards diminishes it. The deep sleep which it induces is apt to be preceded and followed by peculiar hazy hallucinations. It has been used as a hypnotic in doses ranging from one-third to six-tenths of a grain for adults, though three-quarters of a grain have produced symptoms of poisoning. The dose does not have to be increased on account of the system becoming habituated to the drug. The "toxic dose" is not much above a grain and a half for adults, and not over nine-tenths of a grain for children.—*New York Medical Journal.*

REVIEWS AND BOOK NOTICES.

A Complete Pronouncing Medical Dictionary. Embracing the Terminology of Medicine and the Kindred Sciences, with their Signification, Etymology and Pronunciation. With an Appendix, etc. By Joseph Thomas, M.D., LL.D. Philadelphia: J. B. Lippincott & Co. 1886.

A medical dictionary must contain not only the current and obsolete words in the medical sciences, but must also give those in nearly every department of natural science. Very much is expected of such a work, and the task of compiling it must involve a knowledge of languages dead and living, and a knowledge of the sciences in all their rapid advancement. The work before us not only attempts this, but it has undertaken in an especial manner to give the pronunciation. That a new medical dictionary with such distinctive qualities was needed, has long since been recognized, and we hail the appearance of this for reasons we will give.

This dictionary is based upon the smaller volume by the author, which has proven such a handy volume to the medical student. "The fact that multitudes of our young men commence the study of medicine," he says, "without any previous acquaintance with Latin or Greek, renders it important that the elementary works intended for the use of students should be adapted to meet this exigency. To meet the needs thus indicated of the medical student, it has been deemed necessary to furnish fuller explanations in regard to several subjects than has been usual in the preparation of medical dictionaries." In this estimate he has rightly judged the needs of the student of to-day, and has succeeded in meeting the necessities of the times. He has given us a volume which includes words but recently coined, and has avoided much of the rubbish of obsolete ones. He has succeeded in denoting pronunciation so clearly as put the student in possession of the best usage, without confusing him with the complicated signs of some of the more recent dictionaries: and the publishers have brought the work out in clear, distinct type, which catch the eye and facilitate a hasty search for words.

It would be expecting too much to find a dictionary of a science so expansive and expanding as medicine is, to be perfect, and we make some notes on omissions and faults, which are offered the author with some hesitation, but in an honest spirit.

Some of the omissions noted were: *Abortifacient*, *Acrylic Acid*, *Analgesic*, *Aspergillum*, *Cœliac Axis*, *Magendie's Solution*, *Leucoderma*, *Vaccinifer*, *Variolation*, *Dropsy of the Ovary*, *Ovary, dropsy of*, *Dystocia*, *Dyschesia*.

Some of these words are unimportant, but the omission of several of them will surprise those who consult the volume. *Analgesic*, for instance, a substance which overcomes pain; *Magendie's Solution*, a preparation largely in use by physicians for hypodermic administration; *Vaccinifer*, the person or animal that produces the vaccine vesicle; *Dystocia*, difficult labor; and so on through many more of them which we have noted. The word *Alphosis*, used by Quain (see Dictionary, p. ——) to denote the act of becoming white, is not mentioned.

The spelling of words follows the best authority, but the word *Ailantus* is written incorrectly Ailant*h*us, for which see Murray's Dictionary and the usage of the best botanical writers of the day except Dr. Gray.

Aneurism is spelt as here given and not aneur*y*sm. The latter is etymologically correct, and is used by English writers, but the choice should be given of both forms.

Cannula is given according to English usage, and no reference is made to the equally correct form, *Canula*, used by all American writers.

Vaccina is the spelling employed for the Latin of Cow-pox, and is undoubtedly correct, although not the accepted form, *Vaccinia* being almost exclusively used. But at the word *Cow-pox* reference is made to *Vaccinia*, as though this were the form accepted by the author. *Whooping Cough* is also adopted, and not *Hooping Cough*, as given in *Index Medicus* and the *Index Catalogue* of the Library of the Surgeon General's Office, and by other American authorities, including Webster.

As helpful as this volume is in pronunciation, there are some words which we note as being at variance with the best usage. We regret that we cannot give accent signs to accurately indicate the sounds.

Hyp-o-dermic is not the recognized pronunciation, and has nothing to recommend it, not even euphony. The pronunciation Mi-crosco-py, with long *i* in the first syllable, had but a short life, and except in the case of a few, mycro-scopy is accepted.

The author gives *Gel-se-mium* as the pronunciation of Gel-sem-ium. The established pronunciation of this word was brought about by improperly spelling *Gel-sem-inum* as used by some writers, and since the word has been uniformly corrected in text-books the pronunciation Gel-sem-ium has been adhered to, and was adopted in the last edition of the United States Dispensatory. Preference is given to Phys-o-stig-ma, instead of Physo-stigma ; to Pod-o-phyllin, rather than Podo-phyllin ; to Proph-y-lactic rather than Prophy-lactic ; to Ec-ze-ma rather than (Ec-zē-ma) the long sound of *e* in the second syllable. Quĭ-nīne pronounced with short *i* in the first syllable and long *i* in the second, rather than the more affected *kè-neen* of some, or the long sound of *i* in both syllables. The pronunciation of the last two words (*eczema* and *quinine*) is according to the best usage.

We note that Erythroxylon Coca is placed in the Natural Order Violaceæ, whereas that order is quite distinctly removed from the Erythroxyllaceæ, its true position.

The larger part of the appendix is exceedingly useful to students, and greatly enhances the value of the volume. In it we find "Explanation of Latin Terms, Phrases, etc.," "On Writing Prescriptions," "Table of Doses," "Table of Chemical Symbols," "Table of the Orders and Families of Living Mammalia" (one page only), and "Metric Weights and Measures."

This volume addresses itself to the apothecary and student of natural history as much as to the physician, for in it is included all the recent preparations of the United States Pharmacopœia, and an almost complete vocabulary of botanical terms and a short description of numerous plants valuable for medicine or for food.

The directions for prescription-writing are clear and explicit, and one piece of advice, whether intended to be humorous or not, has apparently been adopted by the majority of those who write prescriptions :

"If the writer of a prescription cannot afford to take the trouble to be correct, it would perhaps be better for him to use abbreviated names or terms," etc.

Thomas' Dictionary is destined to become the popular book of reference with the doctor, the druggist, the botanist and other science students, and its preparation in an excellent style of the typographer's art will make as attractive as it is useful.

ACNE—ITS ETIOLOGY, PATHOLOGY AND TREATMENT. A Practical Treatise Based on the Study of 1500 Cases of Sebaceous Disease. By L. DUNCAN BULKLEY, A.M., M.D. New York: G. P. Putnam's Sons. 1885. Pp. 280.

It is seldom that one sees a handsomer volume than this new treatise by Dr. Bulkley, and this is not too high praise, even though we recall the many excellent examples of the publisher's handiwork in the preparation of medical volumes. The typography, the paper, the illustrations are all faultless. The chief merit of the volume, however, is not in the typographer's art, but in the intrinsic work by the author.

He introduces the volume by a quotation from Daniel Turner (1714), apparently reproduced in *fac simile* of type and phraseology, as follows:

"I shall make no apology for spending as much Time, or taking the same Pains to remove the Blemishes incident to the Face by some, as I have done to retrieve a former good Complexion lost by other kinds of Illness. And therefore if I have given Instructions how to abate the fiery red Complexion of the Face, and to level those monstrous Blotches or Pustules, with other Breakings out, that so much disfigure it, and take off from its Comeliness and Beauty; I cannot think the Talk below the Dignity of a Physician."

No apology is needed in the introduction of such an exhaustive treatise. The author designed it to be a companion volume to his treatise on Eczema. He has adopted the suggestions of some of the reviewers of the latter, and added illustrative cases.

There is a separate chapter on therapeutics, an appendix apparently inseparable from treatment of skin-diseases, and embracing a broad range of formulæ.

The wood-cut illustrations are superb, not only those selected from Sappey and Simon, but those signed with the initials G. T. E., presumably Dr. G. T. Elliott, are worthy of all praise.

The bibliography of the subject is very large, filling seventeen pages in much smaller type than the body of the book, and if not complete, will hardly be detected, without it should fall into the hands of the bibliographer of the Library of the Surgeon General's Office.

The American school of dermatology are doing telling work for the reputation of scientific medicine in this country, and Dr. Bulkley in this and other works deserves a large share of the credit.

A TREATISE ON NERVOUS DISEASES; THEIR SYMPTOMS AND TREATMENT. A Text-Book for Students and Practitioners. By SAMUEL G. WEBBER, M.D. New York: D. Appleton & Co., 1, 3 & 5 Bond Street. 1885. Pp. 415.

This book was not written for specialists, but "for students and general practitioners who have little time to read." It is essentially practical, and presents this most difficult division of medicine in a manner which other authors have aimed at in vain.

A "General Introduction" is given in the first chapter, describing the methods of examining sensation and motion. Special and proper emphasis is laid upon the use of the ophthalmoscope "for a satisfactory examination of patients with diseases either of the brain or of the spinal cord, and it is better to use it in every case, no matter what the disease is supposed to be." The various reflexes are clearly and practically described, that part especially which is quoted from Gowers will be carefully read. The author thinks that the diagnostic significance of the *tâche cérébrale* is of less value than was formerly supposed.

The chapter on anatomy and physiology is very short, and has added to it general symptomatology of great value.

Diseases of the membranes, change in blood-supply, hæmorrhage, occlusion of cerebral arteries, tumors of the brain and abscess of the brain are the heads under which the pathology of the brain and its membranes are treated. In speaking of abscess of the brain and the causes which lead to it we think more stress might very properly have been laid upon the dangers of inflammation of the ear leading to abscess of the brain. It is true the author does not neglect to point it out, but we believe such abscesses were remarkably common during the early part of last spring.

The spinal cord is not considered—its anatomy, physiology and general symptomatology—followed by pathology and treatment of disease of the meninges and cord. Diseases of the peripheral and sympathetic nerves, including simple neuritis, neuralgia, local and post-febrile paralysis, spasm and diseases of the sympathetic occupy five chapters. Lastly, unclassified diseases—vertigo, chorea, paralysis agitans, epilepsy, hysteria, neurasthenia, tetanus, myxœdema, toxic neurosis and syphilis of the brain conclude the volume.

We note in passing a few slight points which are at variance with clinical observation. Under the etiology of chorea, the author gives on the authority of *on dit* that "the colored races are more likely to be attacked than whites." In a practice of twenty years among the negroes the writer has seen only one case of chorea among those of pure blood, while the mulattoes are rather more prone to it than the whites. In this latitude (34-30°), which may be considered a "warm climate," chorea is unusual in either whites or blacks.

The author's acquiescence in the causative influence of syphilis in the production of locomotor ataxia showed how rapidly accumulated experience on this subject has set aside the contrary opinion held only two or three years ago, and serves to show also how thoroughly his work is written up to the current of medical progress

We predict that this work will become a favorite with those for whom the author has written it, and that its popularity will be founded upon the careful and concise symptomatology, and the practical turn given to each chapter.

REMINISCENCES AND MEMOIRS OF NORTH CAROLINA AND EMINENT NORTH CAROLINIANS. By JOHN H. WHEELER.

We have noticed the preceding numbers of this work as they have been issued, and we come to the conclusion of it with much disappointment that so much valuable material has been so badly edited, and that so much that is merely advertising biography should have been placed side by side with some of the proudest records of Carolina's sons.

Doubtless this work will be consulted by the future historical scholar, and if he happens to have the true instinct of a student he will avoid the immaterial and accept the substantial as far as he has vouchers. But who will be able to fill up the gaps and give anything like a true perspective to what is recorded! Few as are the books on North Carolina history, it would be far better to await patiently the birth of the true historian than accept this volume as a substitute.

QUARTERLY BULLETIN OF THE CLINICAL SOCIETY of the New York Post Graduate Medical School and Hospital.

This is the first number of this new periodical issued under the editorial management of Dr. Seneca D. Powell and four other members of an Executive Committee. This number has an interesting article on "Phthisis and Pneumonia in their Relation to Syphilis," by Dr. Wm. H. Porter, noticed in our last journal. The article is illustrated by a chromo-lithograph, showing the lesions in a syphilitic lung.

The upper half of the lung has a number of large cavities, and the lower half shows syphilitic pneumonia and a large number of miliary gummata.

A Text-Book of Pharmacology, Therapeutics and Materia Medica. By T. Lauder Brunton, M.D., D.Sc., F.R.S. Adapted to the U. S. Ph. by Francis H. Williams, M.D., Boston. Philadelphia: Lea Brothers & Co. 1885. Pp. 1035.

The author recalled from the publishers the material he had prepared and announced as being ready to issue from the press some years ago. The book as it now stands, the author says, has been reduced in size, some doubtful points have been cleared up, and the general plan of the work altered.

A large section of the work is devoted to the action of drugs, and especially an account is given by which the action of drugs is determined. The author's experience in teaching has shown him that "students sometimes find a difficulty in applying physiology to pharmacology and therapeutics," "and that many there are, like myself [Dr. Brunton], apt to forget those parts of physiology which they are not constantly studying." He has therefore given a short account of the normal functions of the different parts of the body, before he proceeds to discuss the alterations which are produced in them by drugs, or which they undergo in disease. He has also discussed pathological questions when it becomes necessary to render the action of drugs more intelligible. The Second Section is a short description of general pharmacy, and is very little more than a copious inventory of pharmacopœial effects.

The Third Section describes the Inorganic Materia Medica, and the Fourth the Organic Materia. The Fifth Section describes the Vegetable Materia Medica after the usual botanical sequence, and the Sixth and closing Section, the Animal Kingdom. The wood-cut illustrations are not always successful, and the illustration of a solitary allspice would hardly impress the shape of the fruit upon a student's mind.

The indexes are copious and very valuable, viz: a general index, in alphabetical order; index of diseases and remedies, and a bibliographical index, with subjects alphabetically arranged, and under each heading citations of author, volume and page, greatly facilitating the search for further information or the verification of quotations.

A complete analysis of this volume could not be made in several numbers of the JOURNAL, if it were desirable. It will take a high place among the works on therapeutics, because of the introduction to the laboratory study of therapeutics, and of the original work of the author, and the adaptableness of the teaching to the use of the practitioner. Happy the student who gets such a volume to shape his first knowledge of therapeutics! for he will not only escape the obsolete matter which his seniors have to unlearn, but he will be taught how physiology and pathology are to be made to elucidate it.

For the students' sakes, though, we hope that no such erroneous idea will gain ground, that it is not necessary to study the nature of crude drugs. It is quite the fashion now to quote Dr. Sharpey's saying that "You may as well require of a medical student a knowledge of the whole art of cutlery before you set him to dissect." If the student who is preparing himself for practice in the sparsely settled South neglects pharmacy and materia medica, he will not be more than half prepared to practice medicine. He is not unfrequently compelled to be his own druggist, and this he cannot do until he has learned to recognize drugs and the art of preparing them.

The typographical errors in this volume are quite noticeable, a fault which seldom blemishes the volumes which issue from the press of the Messrs. Lea. It is beautifully printed, and, with the exhaustive and accurate indexes, will entice not only thorough reading by the student, but the practitioner who has only time to call in at his office a half hour from his busy rounds.

A TREATISE ON EPIDEMIC CHOLERA AND ALLIED DISEASES. By A. B. PALMER, M.D., LL.D. Ann Arbor, Michigan: Register Publishing House. 1885.

This little volume has the decided merit of being founded upon the experience of the author in three seasons of epidemic cholera. The historical account of its ravages, the description of the disease and its treatment are as clearly and reliably written as we remember to have seen it. The cholera alarm is over for the season, and special treatises on this subject have lost much of their interest, but this work may be put away safely in the library as as sound an exposition of the topic as can be found, and the sad time may yet come when we will gladly drink in the pages which are stored with actual experiences.

SYRUP OF HYDRIODIC ACID (U. S. Ph., containing one per cent. absolute hydriodic acid) is introduced as a remedy in acute inflammatory rheumatism by Dr. James Craig, of Jersey City. In his hands it shortens the attack, relieves the pain, reduces temperature and leaves the patient without any heart complications. The dose is two to three teaspoonfuls in a wineglass of water every two hours, lessening the dose as improvement takes place, but continuing it for about a week or ten days. It has no good effect upon subacute and chronic rheumatism.—*New York Medical Journal—Therapeutic Gazette.*

PEPTONIZING FERMENT resides in the milky juice of the common fig (*Ficus carica*). In its effect on fibrin and the coagulation of milk this ferment resembles pepsin. It also produces diastatic reaction in the conversion of starch into sugar, and a syrup made from dried figs has the same peptonizing property as fig milk. These facts suggest the possible usefulness of a fig syrup for children as an adjunct to the various starchy foods so much in vogue.—*Pharm. Journal—Therapeutic Gazette.*

TRICHLORACETIC ACID.—This substance is said to be an excellent antiseptic agent. Dr. Filipovich has employed it with success in an aqueous solution of the strength of 2½ to 5 per cent. in the treatment of wounds, erysipelas, soft chancre, etc. He has also given it internally in gastric catarrh and cancer, in doses of 2 to 4½ grains (0.12 to 0.30 gramme) for adults.—*N. Y. Medical Record.*

SAPONIN IN YUCCA ANGUSTIFOLIA contains an emulsifying agent similar to quillaia, the former containing 10.4 per cent., the latter 8.82 per cent.

EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., Editor.

☞ *Original communications are solicited from all parts of the country, and especially from the medical profession of* THE CAROLINAS. *Articles requiring illustrations can be promptly supplied by previous arrangement with the Editor. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the* JOURNAL, *by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to* THOMAS F. WOOD, M. D., *P. O. Drawer* 791, *Wilmington, N. C.*

THE FALSE POSITION OF THE COMMITTEE OF THE AMERICAN MEDICAL ASSOCIATION RESOLUTELY ADHERED TO.

Discussion, so far, has done little to stay the ruinous course pursued by the malcontents of the New Orleans meeting in regard to the International Congress. The new combinations of the Chicago and New York Committee meetings have only made a bad matter worse.

When we look back upon the whole affair from this standpoint, we cannot help feeling that those gentlemen who represented the International Medical Congress made a very unwise move in asking the American Medical Association to take any part in the construction of the forthcoming meeting. These gentlemen would have done far better by taking the whole responsibility upon themselves, and this course would have been satisfactory to the members of the last Congress, the evidence of which we have in Sir James Paget's letter to Dr. Hays.

The discourtesy of the American Medical Association towards the original committee seems not to occur to the reconstruction committee, and there can be but one interpretation of the whole matter—the new committee intends to organize a Congress upon a basis so objectionable that it has already divided the profession into two parties. If the gentlemen composing this new organization are willing to undertake it, they cannot be prevented, but it would be well if they could be, both for the success of the Congress and the unity of the profession.

We have written the above lest by silence it might be thought that this JOURNAL has altered its views upon the subject. The American Medical Association has made a false step, and it will be exceedingly fortunate if it recovers from it, without estranging some of its most desirable members.

GROSSLY IMPROPER ADVERTISEMENTS IN THE NEWSPAPERS.

No one but physicians in their daily intercourse with sick people know how credulously the advertisements in newspapers vaunting cures are read and remembered by them. Among educated patrons it is not at all unusual to see one or more bottles of the latest sensation among the most skilfully advertised "kidney cures," or "liver regulators," or "blood purifiers," and that, too, in houses where the doctor is making daily visits. The proprietors of these nostrums are deeply skilled in that branch of their business which makes the most telling impression upon the public, and therefore devote very much of their ability—(yes, and ability which, if used in any other way, would secure an *honest* living) to the most expensive part of their business, that of preparing cunningly devised descriptions of disease for the advertising columns of the newspaper.

It is becoming more and more offensive year by year—the liberty which newspaper proprietors take with their subscribers. The voices which are raised against the abuse are not numerous enough to make the proper impression upon the newspapers, simply because protests against the abuse are not welcome to the columns of such newspapers, as they would cut off a very profitable source of revenue. So far as we are aware the protests against these vile and filthy advertisements of nostrums have come from the medical press, and such papers as the *Nation* and *Churchman*, the latter papers making the most effectual of all protests by excluding them from their advertising columns.

On a former occasion we noticed an indecent advertisement, lauding an electric perineal band, and illustrating its wonderful effects for the cure of sexual impotence by a wood-cut showing the flashes of electricity radiating from the scrotum and perineum. Now there comes from a Southern nostrum dealer a medicine to make childbearing easy. The minute particulars of this remedy are detailed in the columns of a daily newspaper which reaches a large number of readers and is attractive in every respect.

What is the remedy for this violation of the reading public's rights? There is no doubt at all that every issue of such a paper should be promptly burned before it reaches the hands of the young folks in a household, if, by reason of being the only newspaper in the community, it must be admitted under the roof, and that other reading should be supplied. As long as heads of families submit to having indecencies in a printed shape frequently under the eyes of their daughters and sons, and upon subjects which no tolerably decent person would dare to mention, some newspapers will impose them upon the household.

To talk of the inculcation of purity among our children in one column and tempt their prurient desires in another, is a defenceless inconsistency, even if it should not be called by a more offensive, but more correct, epithet.

CURRENT LITERATURE.

ACTION OF DRUGS ON THE LIVER.

From Brunton's Pharmacology, Therapeutics and Materia Medica.

The liver is by far the largest organ in the body, and it is placed in a very peculiar situation. It acts as a porter or door-keeper to the circulation, all the substances which are absorbed from the intestinal canal having to pass through the portal vein and the capillaries of the liver before they can enter the general circulation.

The liver, therefore, seems to have a most important function in destroying the poisonous properties of peptones, and perhaps other substances produced during digestion, and possibly also of poisonous products of tissue waste. The peptones are converted by it into sugar and glycogenic substance.

Drugs which act on the liver are usually divided into stimulants and cholagogues and into hepatic depressants.

It has been for a very long time a matter of clinical experience that the administration of mercurial purgatives was frequently followed by the discharge of greenish, bilious-looking evacuations and a great improvement in the general condition of the patient. These two results were classed together as cause and effect, and the improvement was considered to be due to the removal of bile. It was then supposed that the bile was formed in the blood and simply excreted by the liver, and therefore the bilious-looking stools were ascribed to stimulations of the secreting function of the liver by the mercurials. Hepatic stimulants and cholagogues were therefore considered to be identical. We now know that the bile is formed in the liver, and not simply excreted by it from the blood, and that bile formed in the liver may again be absorbed into the blood. Increased functional activity of the liver might thus lead into the presence of a greater instead of a less quantity of bile in the blood. Recent experiments have also shown that one of the most marked cholagogues which we know, viz: calomel, appears rather to diminish than to increase the actual secretion of bile, so that we are now obliged to distinguish between hepatic stimulants and cholagogues.

Hepatic stimulants are drugs which increase the functional activity of the liver and the amount of bile which it forms. Cholagogues are substances which remove bile from the body, possibly by acting rather on the intestines ; they do not necessarily increase the secretion of bile, they may only prevent its reabsorption, and thus diminish the quantity in the circulation. Hepatic depressants are drugs which lessen the quantity of bile secreted by the liver.

In relation to tissue waste, it is not to be forgotten that the products of the functional activity of our organs are not only poisonous to itself, but may be poisonous to other organs. Thus the waste products of muscular activity gradually poisons the muscle and prevent its contraction, although as soon as they are washed out with salt solution the muscle recovers its power.

Lactic acid also, which is a product of muscular waste, is poisonous, not only to the muscle, but to some extent to nerves, and lessens the functional activity of the brain and produces sleep. At the same time it is impossible that these waste products, poisonous in themselves, may through slight changes be rendered available for nutrition, just as peptones, which are themselves poisonous, are most important foods.

Besides acting on peptones, the liver seems to have the power of destroying the poisonous products of some vegetable alkaloids. For example, 1-20th of a drop of nicotin given to a frog does not produce death, but 1-40th is sufficient when the liver has been previously removed. Conia, cobra poison, hyoscyamin, all exert much less poisonous action after they pass through the liver, before they reach the general circulation, than they do when injected directly into the blood. Curare, prussic acid and atropia, on the other hand, do not have their action modified.

The result of these experiments may be partly explained on the supposition that a good deal of the poison has been excreted along with the bile, and has thus been prevented from reaching the general circulation. But it is probable that in addition to the function of excreting poisons, the liver has also got the power of destroying poisons, and, it may be, the power of removing poisons from the circulation by merely storing them for a time.

In relation to this subject it is interesting to bear in mind that alkaloids, to which the name of ptomaïnes has been given, are found in dead bodies during the process of decomposition, and that when a solution of peptone is treated in the same way, a solid non-volatile alkaloid is obtained.

Ptomaïnes are not only formed in dead bodies, they are also formed in the intestine by the decomposition of parts of its contents. They have been found in large quantities by Bouchard, both in the stools of persons suffering from diarrhœa or typhoid fever, and in normal fæces. They appear to be absorbed from the intestine into the blood and excreted by the urine. They have been found by Bouchard in the urine, both in health and disease, and Bocci has shown that the human urine has a paralyzing action on frogs like that of curare or of the ptomaïnes which Moses and Guareschi have obtained from putrified fibrin or brain.

Sometime ago I pointed out the resemblance between the languor and weakness which occur in many cases of indigestion and the symptoms of poisoning by curare, and drew attention to the probability that the languor was due to the effect of poisonous substances absorbed from the intestine. These I considered to be probably peptones, but it is possible that they may be ptomaïnes, the function of the liver is equally important in preventing them from reaching the general circulation.

Bearing in mind, then, the office of the liver as a porter to prevent the passage of injurious substances from the intestinal canal into blood, and the great effect that any alteration in the circulation through it may produce upon the circulation, and consequently upon the functions of all the intestinal organs, we will much more readily understand the importance of this gland, the largest in the body, than if we look upon it simply as an instrument for secreting the bile which plays a useful, but still subordinate, part in the process of digestion.

We are still but imperfectly acquainted with its functions, but we may say that they are at least five :

1. To form and store up glycogen, a material which will afterwards be used in evolving heat and muscular energy : it will thus, as it were, perform the office of a kind of coal-bunker to the body.

2. To secrete bile for use in digestion.

3. To excrete bile.

4. To destroy peptones which are poisonous when they are directly introduced into the general circulation, and to convert them into glycogen, etc.

5. To destroy or store up and excrete other organic poisons which may have been formed in the alimentary canal during the process of digestion, or may have been introduced into it from without.

The glycogenic function of the liver is influenced by a number of drugs, especially phosphorus, and substances belonging to the same chemical group. Phosphorus, arsenic and antimony all destroy the glycogenic function, and at the same time tend to cause fatty degeneration of the organ. It is possible that these effects of the poisons are closely connected, but the exact connection between them has not yet been ascertained.

In consequence of the disappearance of glycogen from the liver which is caused by these drugs, puncture of the fourth ventricle will no longer cause glycosuria in animals which have been poisoned by them. Attempts have been made to utilize this fact in the treatment of diabetes, but as yet the results have not been very satisfactory.

Hepatic Stimulants.—The action of drugs on the secretion of the liver has been very carefully studied by some observers, especially by Röhrig, Rutherford and Vignal. The mode of experimenting was to curarize a dog, ligature the common bile duct and insert a cannula into it. The bile was thus entirely prevented from reaching the intestine, and the whole of it flowed through the cannula into a vessel in which it was collected, so that the amount secreted in a given time was readily estimated. The drug was then administered, usually by injection, into the duodenum, and the increase or diminution which this caused in the bile was noticed.

The indigestion of food greatly increases the secretion of bile, and in order to get rid of this disturbing factor, the experiments were all made on fasting animals.

A great number of drugs were experimented upon, some of which were found to stimulate the liver, and increase the quantity of bile without altering its quality, so that their action upon the liver would be nearly analogous to that of laxatives upon the intestine; others increase the quantity of bile and render it more watery; others again had little effect upon the liver, but stimulated the intestinal secretion and movement.

The following are hepatic stimulants:

Acid, dilute nitro-hydro-chloric.[1]
Rochelle salt.[3]
Aloes.[1]
Sodium sulphate.[2]

Sodium phosphate.[1]
Mercuric chloride.[1]
Sodium benzoate.[1]
Baptisin.[2]
Hydrastin.[2]
Iridin.[1]
Phytolaccin.[1]
Sanguinarin.[1]
Colocynth.[1]
Rhubarb.[2]
Potassium sulphate.[2]
Sodium salicylate.[1]
Ammonium benzoate.[2]
Euonymin.[1]
Juglandin.[2]
Leptandrin.[2]
Podophyllin.[1]
Colchicin.[1]
Jalap.[2]
Ipecacuanha.[1]
Physostigma.[3]

The most powerful stimulants in the precedidg list are indicated by (1), the less powerful by (2) and (3).

Those drugs which stimulate the intestine much as a rule increase only slightly the secretion of bile by the liver, and podophyllin, which in certain doses acts as a powerful hepatic stimulant, ceases to have this effect when it produces marked purgation. These effects occur independently of the action of the drugs on the reabsorption and resecretion of bile, inasmuch as in the experiments quoted the whole of the bile was collected directly from the liver and not allowed to pass at all into the intestine.

Cholagogues.—In making similar experiments, however, Schiff observed that the secretion of bile was very much greater for a short time immediately after the bile duct was tied than it was later on; and on further investigation he found that this was due to the fact that the liver has a double function: it not only forms new bile, but resecretes the old bile which has been reabsorbed from the intestine. A certain quantity of bile is lost in the fæces, but a considerable portion of it seems to be utilized again and again; being formed by the liver, poured out into the intestine, reabsorbed and again excreted. This circulation of bile between the intestine and the liver has been called by Lussana the entero-hepatic circulation. It has been shown that the bile which is absorbed from the duodenum of a guinea-pig does not.

Not only is bile re-excreted in this manner by the liver, but other substances also, such as medicines and poisons, are likewise excreted. The absorption and re-excretion takes place with great rapidity, for Loffter, in some experiments made under Heidenhain's direction, found that rhubarb injected into the duodenum appeared in the bile in less than five minutes. Substances injected into the blood were also excreted by the bile with great rapidity, so that sulphindigotate of soda introduced directly into the circulation in some experiments, began to color the bile blue one minute after its injection. Other substances are also absorbed from the intestine and excreted by the liver and passed round in the entero-hepatic circulation, just like the bile. Curare is one of those, and to this probably is due, in a great measure, the absence of fatal effect from its introduction into the stomach. Iron also circulates with the bile, and it is probable that the beneficial effect of large doses may be due, in part, to the action of the iron upon the liver. The objection has been raised to the use of large doses as they are useless, inasmuch as the whole of the iron which is taken into the mouth is again expelled in the fæces, but there can be no doubt that clinically large doses of iron are sometimes beneficial. Copper and manganese also appear in the bile, and it is probable that lead and all the heavy metals pass chiefly out of the body by this channel.

It has been suggested by Lussana that the malarial poison also circulates in the entero-hepatic circulation.

From the fact that bile is reabsorbed from the intestine, it is obvious that an hepatic stimulant which simply increases the secretion of the bile by the liver, will not of itself act as a cholagogue and remove the bile from the body. In order to do this, this action must be combined with increased persitaltic action of the bowels, which will hurry the bile out and prevent its reabsorption. If, in addition to increased peristalsis, we have increased secretion from the intestinal mucous membrane, so as to wash out the intestine, we shall get the bile still more effectually removed from the body. The necessity for such a combination has indeed been long ago shown by clinical experience, and the advantages of following a mercurial pill by a saline purgative in order to clear it away, have long been recognized. Some hepatic stimulants increase also the peristaltic movements and secretions from the intestine; for example, those substances which have been already enumerated as cholagogue purgatives:

Aloes,
Baptisin,
Colchicum in large doses,
Colocynth,
Jalap,
Podophyllin,
Rhubarb,
Sulphate of potash.
Sulphate of soda,
Mercury salts.

In most cases, however, it is advisable to combine hepatic and intestinal stimulants in order to insure a more cholagogue effect. Thus calomel, as employed in Rutherford's experiments, has no stimulant action on the liver, but stimulates the intestinal glands; corrosive sublimate, on the contrary, stimulates the liver powerfully, but has a very feeble stimulant action on the intestine; a combination of the two stimulates both the liver and the intestinal glands. When used in medicine, calomel is recognized to be a powerful cholagogue, one of the most powerful, indeed, that we possess, and it is by no means impossible that a small portion of it may be converted into a corrosive sublimate in the intestine, so that we thus get from the calomel, when given alone, the combined effects of both the mercurial preparations just mentioned. It is perhaps more probable, however, that the cholagogue action of calomel may be due to its having a peculiar stimulant action on the duodenum and ileum, so as to hurry the bile along the intestine and prevent its reabsorption. The reason for supposing that this is the case rather than that part of it is converted into corrosive sublimate and stimulates the liver, is that when given to dogs with a permanent fistula, it does not increase the flow of bile, which it would probably do if any corrosive sublimate were formed. Another is that after the administration of calomel, leucine and tyrosine, which are products of pancreatic digestion, are found in the stools, and it seems not improbable that their appearance under such circumstances is due to their having been hurried along the intestine from the duodenum to the anus, and evacuated without time being allowed for their absorption or decomposition in the intestine.

Adjuncts to Cholagogues.—The pressure under which bile is secreted is very low, so that a very slight obstruction to its flow through the common bile duct is sufficient to cause its accumulation in the gall-bladder and gall-ducts, and thus to lead to its re-absorption. This is readily observed in cases of catarrh, either of the duodenum or of the gall-ducts. In such cases the use of the ipecacuanha is indicated. It has been found clinically to be of great service, and it probably acts by lessening the tenacity of the mucus in the gall-duct, and thus tends to remove the obstruction in front, while at the same time it increases the pressure behind by stimulating the hepatic secretion. The movements of the diaphragm have a powerful action in aiding the expulsion of bile from the liver; they do this to a certain extent in the ordinary respiration, but their effect is much greater in forced respiration. Exercise, therefore, tends to expel bile from the liver and prevent its accumulation in the biliary capillaries, but a little brisk exercise, as in riding, rowing, climbing, tennis, etc., will have in a few minutes a more beneficial action than a lazy constitutional walk of a couple of hours.

The secretion of bile is not only increased, but the pressure under which it is secreted is raised by sipping fluids. This is in all probability due to nervous influence, for it has been shown by Kronecker that taking a liquid in numerous small sips will for the time completely abolish the inhibitory action of the vagus on the heart. It is probable, in consequence of this fact, that Carlsbad water, when taken in numerous sips for an hour or more, as at Carlsbad itself, is so exceedingly efficacious in hepatic diseases, while sodium sulphate, which is the main constituent of the water, was found by Rutherford to have only a very slight action as a stimulant on the liver."

NOTES FROM THE REPORT OF THE GERMAN VACCINATION COMMISSION, SHOWING THE VALUE OF VACCINATION.

Prussia.—Up to 1870 the mortality from small-pox was fairly steady, but was temporarily increased by an epidemic outbreak every 10 or 12 years. The average yearly mortality in the interval between the epidemics was about 15 to 20 per 100,000 of population, but during the epidemic periods it reached to between 40 and 60 yearly for about two years.

In 1871–72 the great small-pox epidemic broke out, in connection with the Franco-Prussian war, the deaths being 243 and 262 per 100,000 for these years respectively.

In 1873–74 the mortality sank very low, viz: to 35.6 and 9.5 respectively, as is usually the case after severe epidemics.

In 1874 the law making revaccination compulsory came into force.

From 1875 onwards the influence of this law is apparent. Whilst without the law the small-pox mortality would soon have reached its usual figures again, it now fell to, and has persistently remained at, a lower figure than any since the beginning of this century. Thus, while up to 1873 the mortality from small-pox per 100-000 of population had only on six occasions in 57 years been as low as 10, or near it—once as low as 7.3 in 1856—and was usually 15 to 20 yearly, nearer the latter than the former, it sank the very next year after the Vaccination Law of 1874 to 3.6.

In 1876 it was	3.1	per 100,000
" 1877 "	0.3	"
" 1878 "	0.7	"
" 1879 "	1.2	"
" 1880 "	2.6	"
" 1881 "	3.6	"
" 1882 "	3.6	"

That this diminution was really a consequence of compulsory vaccination, and not merely an after-effect of the epidemic of 1871–72, the following comparative statistics show:

Austria.—Previously to 1871 the small-pox mortality behaved much like that of Prussia, but was higher on the whole.

In 1872–73–74 the last great epidemic gave epidemics of 190, 323.3, and 178 respectively, per 100,000 of the population. This epidemic was more fatal and lasted longer than the Prussian epidemic. Afterwards the mortality fell, as in Prussia, to lower figures. In 1875 it was 57.7; in 1876 39.2. Here the influence of the previous epidemic ceased, and the mortality rose at once to its old figures, and even higher. Thus:

In 1877 it was	53.7	per 100,000
" 1878 "	60.6	"
" 1879 "	50.8	"
" 1880 "	64.3	"
" 1881 "	82.6	"

This rise was not merely temporary, for in 1880 and 1881 small-pox prevailed as much as it used to before the great epidemic of 1872. Authentic figures are wanting for the last two years, and cannot therefore be given.

Comparison of the small-pox mortalities in Austria and Prussia, respectively, since 1874, shows that the remarkable and persistent decline in the latter country can only be due to the vaccination law, for all other conditions remain the same as before in the two countries.

Small-pox mortality per 100,000 *of the population in a number of German cities, contrasted with that of other cities, from* 1870 *to*

1883. *N. B.—Revaccination compulsory in the former only* (*since* 1874.)—Both German and other cities suffered severely from the small-pox epidemic in the beginning of the last decade. But, whilst in all cities outside Germany the small-pox mortality, after a temporary decline, has risen again to considerable heights, in all the German cities (as in Germany as a whole), it has persistently remained extremely low.

Hardly a better illustration of the effect of the vaccination law of 1874 can be afforded than the comparison of the small-pox mortality of such cities as Breslau and Vienna, Dresden and Prague, Berlin and London, etc.

Small-pox cases and deaths in the German, Austrian and French armies, per 100,000, *from* 1867 *to* 1883.—Like the general population of the countries in question, the armies suffered greatly from the severe epidemic of 1870–71. As to the French army, reliable statistics are wanting, but it is certain that its losses were very great.

During the Franco-Prussian war the German army suffered by far the least of the two armies, though coming into contact in France with a population amongst which small-pox was rife.

The war in itself, with its fatigues and deprivations, could not have caused the great increase of small-pox mortality, for the Austrian army suffered even more severely in the same epidemic. The only difference as regards small-pox between the three armies consisted in this, that the Austrian and French armies were scantily revaccinated, and resided amongst an imperfectly vaccinated population, whilst the German army enjoyed the advantage of efficient revaccination and the relative protection of a community almost free from small-pox.

The harmful influences of a community affected by small-pox, and the relative protection afforded by a community free from this disease, are at once apparent from an inspection of the table of small-pox cases in the German army, for it must be admitted that revaccination had already been practised in the German army for several decades, with a fair degree of carefulness. In spite of this, however, the small-pox cases were more numerous from 1867 to 1869 inclusive, than after the general vaccination law of 1874. No other explanation can be given for this than that, just as during the war, small-pox in the army increased considerably in consequence of its being brought into contact with much small-pox in France, so the same result must often have occurred before at home, when there was more small-pox amongst the civil population.

It is worthy of remark that not a single case of death from small-pox has occurred in the German army since 1874, whilst both the Austrian and French armies still show a very high small-pox mortality. No other reason than the influence of a system of vaccination and revaccination, rigidly carried out, can be made to account for the striking difference between the amount of small-pox in the German army and that in the two armies above mentioned.

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THE PRACTICE OF ARTIFICIAL ANÆSTHESIA—ANÆSTHETICS.

A very instructive, and probably a very fruitful, discussion recently took place before the Section of Pharmacology and Therapeutics of the British Medical Association. It was opened by Dr. Dudley W. Buxton, Administrator of Anæsthetics at University College Hospital. He did not attempt to discuss all the agents suggested for anæsthesia. He summarized the prevailing views to explain anæsthesia as follows: (1) That they act by lessening oxidation of the tissues. (2) That they induce physical changes in the blood, which in their turn induce anæsthesia. (3) That they produce anæmia of brain. (4) That they are capable of affecting nervous tissue directly. Quoting Dr. B. W. Richardson, that there are many agents, such as nitrite of amyl, powerful stayers of oxidation, which do not assume the part of anæsthetics. Hence he thinks the statement that "narcotism is suspended oxidation" must be taken as "not proven." Nor would the second theory survive the test of experiment. The theory based upon the assumption that anæsthesia supervenes upon anæmia of the brain seems to be a case of *post hoc non propter hoc.* Cerebral anæmia certainly supervenes on sleep, and on the torpor provoked by anæsthetics. "In the functionally active anæmic brain of the frog, chloroform will induce narcosis. We therefore have to fall back upon an hypothesis which formulates that the action of this group of anæsthetics is one exerted upon the nervous system itself. We shall also see that to this view a rider will have to be appended, to the effect that this action is one which falls upon the protoplasm of the nervous and muscular systems?

Different anæsthetics are then taken up, beginning with chloroform. He does not find chloroform to be the ideal anæsthetic. "We are seeking," he says, "for simple loss of sensibility, and we have found that the agent employed [chloroform] attacks the vital centres. The respirations, after an initial retardation, are found to become more shallow; their rythm may be increased, but, whether or not, there is lessening of amplitude and depth, and, at length, respiratory movements cease. Consecutive upon the cessation of respiration, we find that the pulse weakens and intermits, the heart eventually stopping. * * * None will deny that such deaths occur; about the exact etiology we cannot be so sure. * * * There seems to me no doubt at all that chloroform is a powerful protoplasm-poison, and as such its use must be fraught with danger. That chloroform is much maligned, I believe; but I venture to think that the dread of it is wholesome. Another point telling against chloroform is that it depresses the bodily temperature, and so conduces to promote the effect of shock."

He next discusses whether any other agent "fulfils the canons requisite for the ideal anæsthetic," and discusses the properties of ether. "Ether has been accused (1) of killing patients by asphyxiation from spasm of the glottis; (2) of killing by provoking pulmonary mischief, bronchitis, pneumonia, etc.; (3) of paralyzing the respiratory movements; (4) of inducing syncope. Syncope does certainly occur during ether-administration, although very rarely." * * * "Death from spasmodic closure of the glottis is so rare as practically to be unimportant, save as a means of pointing a moral; for such cases are certainly due to the administration of too powerful a blast of ether to a timid patient." * * * "Death from chilling of the pulmonary mucous membrane giving rise to pneumonia, or, through the direct irritation by the pungent ether vapor causing tracheitis and bronchitis, does in a certain number of cases occur. Sédillot found, experimentally, that dogs got pneumonia when ether was introduced through an opening in the trachea. Mr. Lawson Tait, recognizing the dangers, invented an apparatus for preventing coid air from entering the lungs. That there is considerable danger of these occurrences in the case of young and delicate children, I am pretty certain."

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"Ether falls short of the ideal as an anæsthetic, in so far that it travels beyond merely annulling sensation, and attacks vital centres. However, considering the great volatility of ether, and that the advent of apnea is heralded by marked signs, while the heart remains in active function even after apnea, we have a far less alarming symptom with which to deal than in the case of chloroform-apnea."

There is not room to give our readers the voluminous discussion which Dr. Buxton's paper drew forth, but we submit an abstract on the same subject by Mr. John Chiene, Professor of Surgery in the University of Edinburgh.

"During these twenty years I have been present at one death which undoubtedly occurred in consequence of severe stretching of the second division of the fifth nerve, acting reflexly and suddenly stopping the heart. Looking back on that case, I am of opinion that, if the patient had been more deeply under the influence of the drug, the death would not have happened. I felt at the time that I was greatly to blame, as I was standing beside the administrator. My house-surgeon had a fatal accident when amputating a finger in January 1880. This case is described in the *Edinburgh Medical Journal* May 1880. No death has occurred in any patient on whom I have myself been operating. I have every now and then been very anxious, but forcible pulling forward of the tongue has dispelled the dangerous symptoms, and artificial respiration has not been found necessary. The main danger encountered has been difficulty of breathing from laryngeal obstruction, accompanied by lividity, in which the methods described in the paper have not been adopted sufficiently early, and in which engorgement of the blood-vessels in the lungs and the right cavities of the heart has resulted secondarily. Occasionally there has been pallor, indicating weakness of the heart's action, either from loss of blood or from shock, due to an imperfect abolition of the reflexes, from an insufficient quantity of chloroform having been administered. I have never had a case in which the cardiac centres have been directly acted upon by the chloroform. I have never required to bleed from the external jugular vein in cases of secondary engorgement of the heart mentioned in the paper. I have on several occasions, however, found great good from encouraging venous bleeding at the wound in such cases.

"After the death which occurred in my wards I gave ether a trial for one year, with Ormby's inhaler; one of my patients died on the day after the operation, with severe bronchial symptoms, referable, in my opinion, to the ether. Either had also this advantage, that the patient often suffered from continuous sickness for two or three days after the administration. I then returned to chloroform, using an injection of atropine and morphine twenty minutes before administration. My attention was directed to the value of this combination by my house-surgeon, Mr. W. H. Dobie, now of Chester. He learnt it from Prof. T. R. Fraser's lecture. It was first used in this form September 1880: Solution of hydrochlorate of morphine ʒ i, solution of sulphate of atropine (freshly prepared) ♏ix. Ten minutes for hypodermic injection.

"The prescription now in use, since January, 1883, is—atropine 2-5ths of a grain, hydrochlorate of morphine 2 grains, distilled water 1 ounce. For hypodermic use: Ten minims=atropine 1-60th of a grain, morphine 1-12th of a grain.

"My head nurse, an experienced woman, whose duty it is always to be beside the patient after his or her return to the ward, and who has been with me since I became a surgeon in the infirmary, has observed that the patients complain greatly of thirst and dryness of the mouth, undoubtedly due to the atropine; even with this disadvantage, I am inclined to persevere with the preliminary injection of atropine and morphine, because physiologists speak so decidedly about the value of the drug in lessening the tendency to reflex inhibition of the heart's action. The after-sickness is unaffected by the use of atropine and morphine. I do not use the injection in children; it frightens them, and probably is not required. At one time I used to give brandy before an operation to try to prevent after-sickness. I could not satisfy myself of its value. I still, however, give it occasionally in nervovs and weakly people; it gives them courage, and has perhaps some effect in lessening the after-sickness. There is no fact which strikes me more than the great difference in different people as regards the after sickness; in those in whom one might expect it, it does not occur at all, and *vice versa*. The same patient is sick at one time and not at another.

I think that the more chloroform is given the greater is the sickness, although this is by no means a general rule. One reason why I have persevered with the inhaler, described in the text, in hospital-practice, is with the hope of lessening the after-sickness, because with it undoubtedly less chloroform is required than with the towel. It is a question, however, whether the patient really gets less; the waste certainly is lessened.

"The present outcry against chloroform is the result of an imperfect understanding of (A) its physiological action; (B) the proper method of administration; (C) the dangers which may accompany its use, and their treatment; (D) the dangers which follow its abuse, and their treatment.

"The more perfectly the surgeon understands these considerations, the greater will be his confidence when called upon to give the drug. Confidence on his part will impart confidence to his patient; knowledge of the dangers may make him more anxious at first, until he gains experience, but this is surely safer for the patient than the ignorant confidence of the administrator who has not this knowledge. Ignorance may be bliss; knowledge certainly is power.

"A. *Its Physiological Action.*—Chloroform is, first, a stimulant; second, a sedative; when inhaled, it passes into the blood and poisons in a certain order the nervous centres.

"Its effects may be classed under five heads: 1. Abolition of voluntary motion. 2. Abolition of sensation. 3. Abolition of reflex action. 4. Stoppage of respiration. 5. Stoppage of the heart's action.

"Our object is to obtain the first three effects, and to avoid the fourth and fifth. It is not necessary to discuss the exact order in which these effects take place. The great practical fact is this, that the first three always precede the fourth and fifth when the stoppage of the respiration and heart's action is due to the chloroform. It is to be remembered that, when laryngeal obstruction occurs, respiration may cease from faulty or delayed treatment on the part of the administrator. The heart's action may cease from shock, too little chloroform having been given before commencing the operation. The action of the heart may also cease in consequence of engorgement occurring secondarily to a delay in the treatment of laryngeal obstruction. These dangers are preventable accidents, which may occur during the administration, and are in no way to be confounded with stoppage of the resriration and heart's action, directly due to a poisoning of the respiratory and cardiac ganglia by an overdose of the drug.

"Chloroform is a cumulative poison; after a person is once fully under its influence a very little more is required to place the patient in a dangerous condition.

"Chloroform is also a volatile poison; and even after the respiratory and cardiac ganglia are affected, if the patient is kept alive for a time by artificial respiration, the effects of the drug will pass off, unless the overdose has been excessive.

"B. *Proper Method of Administration.*—Simple means are the best. A towel or handkerchief is better than any apparatus. If any apparatus is used, then the administrator trusts to the apparatus. The only sure trust is knowledge of the action of the drug, its dangers and their treatment. It is a matter of no importance how much is poured on the towel, except as a matter of economy; what has to be carefully attended to is the effect of the drug upon the patient. The administrator has to give his entire attention to the effect of the drug; as in all drugs, so in chloroform, different patients require different doses in order to attain the proper effect. The administrator must use his brains, and have his catch-forceps attached to his coat. He must have confidence in himself.

"The flannel cap covering the nose and mouth, as first recommended by Dr. Skinner, of Liverpool, and as used in the eye-wards in the Edinburgh Royal Infirmary, is not so good in general surgical practice as the towel or handkerchief, because, as will be afterwards explained, it is by the sense of touch that we best judge of the respiration, and the cap over the nose and mouth prevents the hand from being next the mouth for this purpose.

"In hospital-practice, for the last eighteen months, I have used Allis' ether-inhaler, which was strongly recommended to me by Dr. George Beatson, of Glasgow. It is also used by Dr. Renton, of Glasgow. By it chloroform is saved, and it is a convenient method of administration. As a rule I think the patient drops more quickly under the influence of the drug. I understand it is to be shown at the Cardiff meeting. (See *Glasgow Medical Journal*, January, 1885.)

"The administrator must watch the breathing and the appearance of the patient. The sense of feeling with the hand between the towel and the mouth is the best guide to the breathing. The heaving of the chest is also to be watched. The heaving of the abdominal walls is deceptive, as this may be due to contractions of the diaphragm, which may continue for sometime without any air entering and being expelled from the chest. Voluntary stoppage of the breathing frequently occurs early in the administration. Experience will soon enable the administrator to understand this, and to distinguish it from stoppage of respiration, due to the action of the drug on the nervous centres which govern the muscles of respiration. The sense of hearing may also assist in enabling the administrator to judge of the breathing. In antiseptic surgery, the use of the steam-spray, accompanied by a hissing noise, interferes with the sense of hearing; in such cases the surgeon must trust to the senses of touch and sight. If the breathing become shallow or irregular, accompanied by gasping or sighing, then the towel must be at once removed. Stertorous breathing is not in itself an evidence of danger.

"The appearance of the patient's face is also to be watched. As long as the lips are red the blood is being properly aërated, the circulation and the heart's action are unaffected. If the patient become livid, or unnaturally pallid, then there is danger.

"Tell the patient that he is to take long breaths. Give the drug slowly at first, in order to prevent a choking sensation. Do not let the towel rest on the face, because it is apt to cause blistering. After a time the patient struggles involuntarily. Do not fight with him; guide his movements; and, as the drug takes effect, they will soon subside.

"How are you to know when the patient has had enough? There are three signs, all of which should be made use of:

"1. By touching the conjunctiva. If the patient do not contract his orbicularis palpebrarum, then he is generally sufficiently under the influence. Sometimes, however, this is not a certain sign. The action on the nervous centres is progressive; although sufficient for an operation in the region of the eye, the drug may not yet have affected the whole of the spinal cord, and reflex action in the limbs may not be abolished.

"2. Muscular relaxation, judged of by raising the arm and seeing if it fall heavily by the side.

"3. Local sensibility at the seat of the operation. This is to be estimated by the surgeon pinching the part to be operated on with a pair of artery-forceps.

"These three signs are all useful, and experience will enable the administrator to estimate their proper value in each case. Take away the towel the moment the patient is under the influence. A very common mistake is to suppose that, if the patient be breathing, then all is right. When the breathing stops, then the patient is on the point of death.

"No attention is to be paid to the pulse; it is the last thing that stops. When the stoppage of the heart's action is due to the drug, then the patient is dead. Fortunately, the poison is a volatile one; and if, from ignorance, too much has been given, interfering with the action of the heart, either directly by acting on the nervous centres which govern the heart's action, or indirectly by stoppage of the circulation, the heart may recover itself if the patient be kept alive by artificial respiration, until the poison, in consequence of its volatility, is dissipated.

"The administrator has to devote his attention to other things; and, if he attend to the pulse, he cannot pay sufficient attention to the more important signs—important because they occur earlier in the administration. Attention to the pulse by a second person is not necessary, because the signs which I have already given will be quite sufficient to prevent danger. There is a division of responsibility. Assistance is apt to make the administrator trust to his assistant, and not to be sufficiently watchful himself of the other signs which guide him in the administration. It is not necessary to use the stethoscope in order to test the propriety of giving chloroform. If there be heart-disease, or weak action of the organ, then these are the very cases in which chloroform is most useful, because they are most liable to the occurrence of shock, which the drug prevents by abrogating sensibility.

"C. *The Dangers which may accompany its Use, and their Treatment.*—We must always be prepared for these. They may occur in any case, because the drug acts with much greater rapidity in some cases than in others, and we can never in any case foretell how rapidly the drug may act. The frontier-line between the abolition of sensation, voluntary motion, and reflex action, and stoppage of the circulation and heart's action, is often very indistinctly marked. In old people this is the case; in them the drug must be administered with the greatest caution.

"I have occasionally seen troublesome symptoms in young children; and, while I say that in old people the drug must be given with the greatest caution, I do not wish it to be understood that children can take it without risk.

"We may reach the dangerous effects earlier in some than in others; hence the great care necessary in every case. The order in which the effects take place is the same in all. This must be distinctly understood.

"These dangers may be classed under four heads:

"1. *The tongue falling back* and closing the glottis, in consequence of paralysis of the muscles which hold the tongue forwards. The signs of this are lividity of the face and shallow breathing, as the air does not enter and leave the chest in sufficient quantity. The patient is in the same state as if a piece of meat had stuck in his pharynx, closing his glottis. The piece of meat is his tongue.

"2. *The glottis closing*, due to paralysis of the intrinsic muscles of the larynx. The signs of this are lividity and a crowing sound, as heard in a case of croup, acute laryngitis, or laryngismus stridulus.

"3. *Fainting.*—This is due to an imperfect supply of blood to the brain, the result of either the sitting posture during administration, as the dentist's chair, or to a naturally weak heart in the aged or prematurely aged person. The sign of this is unnatural pallor of the face, judged of more especially by the paleness of the lips. The faintness may be due also (at the commencement of the administration) to fear on the part of the patient. It may also be due to any cause which may give rise to faintness in general. In this case the chloroform has nothing whatever to do with the faintness; it may be associated with, but in no way due to, the chloroform. The faintness may also be due to want of confidence on the part of the administrator. He fears the drug, from ignorance of its physiological action. He commences the operation before the patient is then in a condition which renders him most liable to shock. He is unable to brace himself up to bear the pain; his nervous centres are in a semi-paralyzed condition. The unfortunate result may follow, namely, imperfection or stoppage of the heart's action, followed by syncope.

"4. *Vomiting.*—This is only dangerous if there be food on the stomach. The food passes into the pharynx, and may pass through the semi-paralyzed larynx, and cause suffocation by passing into the bronchi. If the stomach be empty this danger cannot occur.

"The treatment of these dangers is as follows :

"1. *The Tongue falling back.*—The head is to be turned on one side, in order that, by its weight, the tongue may pass to one side, and the opening of the glottis may be free for the entrance and exit of air. If this do not at once effect the object, then the tongue must be removed from its dangerous position, and for the same reason that, if a person be choking from a piece of meat lying on his glottis, the proper treatment is to remove the obstruction. The best way to do this is to seize the tongue with the catch-forceps and pull it forwards, so that the tip of the tongue appears between the teeth.

"2. *The Closure of the Glottis*, due to paralysis of the intrinsic muscles of the pharynx.—To remedy this danger, the tongue must be pulled forcibly ont of the mouth. By so doing the epiglottis is pulled forwards by stretching the ligaments which unite it to the tongue ; the epiglottis, passing forwards, stretches the arytæno-epiglottidean ligaments, and separation of the vocal cords follows. The action here is purely mechanical, and was first explained to me by Dr. John Wyllie, who first described this effect of forcible traction on the tongue.* This can be verified on the dead subject.

"From further experience I am inclined to lay greater stress now than I did in 1876 on the view of Lister, published in Holmes' *System of Surgery;* namely, that the forcible pulling forward of the tongue acts reflexly, stimulating the respiratory centres. I cannot, however, lay altogether aside the mechanical theory described in the text. Lister's theory has strong corroboration in what I have seen of Mr. Joseph Bell's practice in the Royal Infirmary here. In cases of shallow respiration with or without lividity, in which the forcible pulling forward of the tongue has no immediate effect, he at once pushes his finger into the glottis ; here the action, undoubtedly most beneficial, is twofold, mechanical in opening the glottis, but mainly, as Mr. Bell holds, and I think truly, by irritating an excessively sensitive surface, and in this way reflexly stimulating the respiratory and cardiac centres.

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* For an account of the valvular action of the glottis, see paper by Dr. Wyllie, *Ed. Medical Journal*, September, 1866.

"If these two dangers, the tongue falling back and closure of the glottis, be not treated at once, the result is that respiration does not proceed, the blood is improperly aërated, the lungs become gorged, the heart becomes gorged, and the result is, stoppage of the heart's action. If a rabbit be killed with chloroform and the chest opened, the heart will be found to be gorged with blood, and the contractions of the heart will be in abeyance; prick the heart with a needle, allow some blood to escape, and the contractions of the heart are re-established. This experiment seems to show that if, by striking the chest and by artificial respiration, the action of the heart be not quickly re-established, then bleeding from the external jugular vein should at once be resorted to. I have never yet required to have recourse to this remedy, artificial respiration having been sufficient. It must be remembered that it should never occur unless by a fault on the part of the administrator in not using at once the proper remedies—either removal of the tongue if it be acting as a mechanical obstacle to the admission of air, or forcible traction of the organ if the obstruction be in the larynx itself, in consequence of paralysis of the intrinsic muscles of the organ.

"3. *Fainting.*—The treatment is preventive and curative.

"*a. Preventive.*—Never give chloroform in the sitting posture. Never commence any operation, however trivial, until the patient is fully under the influence of the drug; it is far better not to give chloroform at all, than to use it imperfectly.

"*b. Curative.*—If it occur as a result of a weak heart, or in consequence of an excessive loss of blood during the operation, or as a coincidence during the administration of the drug, then the head must be at once placed at a lower level than the body, the arms and legs must be raised to the vertical, ar the patient may be held up by the heels, as recommended by M. Nélaton. The effect in all these ways is attained of restoring a sufficient supply of blood to the brain.

"The good effects of Nélaton's practice are, in my opinion, of a twofold nature; first, by restoring the proper supply of blood to the brain in the most efficient and quickest manner; second, in many of the cases the danger may have been at the opening of the glottis, due to obstruction by the tongue; inverting the patient will at once remedy this by causing the tongue to fall forwards. It will also be useful in cases in which blood, in operations about the mouth and nasal cavities, has passed into the bronchi, or in cases in which vomited matter has passed into the larynx, the foreign body being removed by inversion, as Brunel removed the half-sovereign from his bronchial tubes. The frequency with which Nélaton's practice has been attended by good results in cases of apparent death from chloroform, seems to show that inversion may act in this twofold manner, because obstruction of the glottis is a much more frequent danger in the administration of chloroform than faintness, which, as far as my experience shows, is comparatively rare.

"4. *Vomiting.*—Do noi give any solid food for four hours before the operation. In railway accidents and other sudden injuries in which it is necessary to give chloroform, the greatest care must be taken; if vomiting occur during the administration, turn the patient on his side, in order to allow the vomited matter to escape from the mouth, and prevent any regurgitation into the bronchial tubes. In such cases the administration of the chloroform should be abstained from until the stomach is empty.

"When the act of vomiting takes place, the stomach being empty, then the administration of more chloroform is required, in order to stop the abnormal contractions of the muscular walls of the stomach. There is in such a case no danger from vomited matter passing into the larynx.

"D. *The Dangers which accompany its Abuse, and their Treatment.*—If an overdose of chloroform be administered—and it must be remembered that some patients are very susceptible to the action of the drug—the nervous centres which rule the muscles of respiration are poisoned; then the treatment required is to pull the tongue forwards, in order to allow air to enter or leave the chest by artificial respiration It is a volatile poison, and perseverance in artificial respiration must be continued until the volatile poison passes away. A case recorded by Dr. J. J. Brown in the *Edinburgh Medical Journal* (Nov. 1874) well illustrates this important fact. By artificial respiration, kept up continuously for two hours and three-quarters, he saved a patient in whom complete paralysis of the respiratory ganglia had occurred, but the cardiac ganglia were unaffected. The case also shows that the respiratory ganglia are poisoned before the cardiac ganglia. When the overdose is excessive, then the heart's action is interfered with; by artificial respiration, striking the chest-wall with a wet towel, and the use of the galvanic battery, it must, if possible, be restored."

SAMPSON COUNTY BOARD OF HEALTH—REPORT OF THE MEETING OF CRGANIZATION.

Pursuant to notice given in "*The Caucasian*," the Board of Health of Sampson County met in the Court House in Clinton at 12 o'clock M. on the 8th day of May, 1885, and was called to order by Col. John Ashford, Chairman of the Board of County Commissioners, and J. H. Benton requested to act as temporary Secretary.

It was moved and carried that a committee be appointed by the Chairman to report to this body the names of the physicians who are eligible to sit as members of the Board of Health of Sampson County. Drs. A. Holmes, A. M. Lee and Henry Sloan were appointed, who, after a short absence, made the following report, which was adopted:

"Your committee beg leave to submit the following names as entitled to membership:

"Dr. J. R. Marable, graduate of Hampden Sidney Medical College; Drs. J. H. Faison, J. H. Darden, Isaac M. Hobbs, J. H. Benton, A. Holmes, G. W. Moseley, graduates Medical Department University of Pennsylvania; Drs. Henry Sloan, W. J. Thompson, Charleston Medical College; Drs. A M. Lee, C. S. Kerr, Medical College of Virginia; Drs. Jesse Lucas, A. T. Cooper, F. Cooper, College Physicians and Surgeons, Baltimore; Dr. John A. Stevens, Jefferson Medical College; Dr. W. L. Hudson, Kentucky School of Medicine; Dr. Wright Hall, Edinborough Medical College of North Carolina,

"The *Edinborough Medical College of North Carolina is not recognized by the State Medical Society, having in the opinion of said Society failed to comply with its charter. We therefore leave this case open for your consideration. All the others, so far as we are informed, are eligible to membership. This one (technically) may be.

"Respectfully submitted,
(Signed) "A. HOLMES,
"A. M. LEE,
"HENRY SLOAN."

The temporary organization was, on motion of Dr. A. M. Lee, made permanent.

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*The Edinborough Medical College will not be recognized by the North Carolina Board of Health. The license of the Board of Medical Examiners would be required

Members of the Board present: Col. John Ashford, Chairman Board County Commissioners; Arthur Lee, County Surveyor; Howard Hubbard, Mayor of the county town; Drs. A Holmes, A. M. Lee, I. W. Hobbs, A. T. Cooper, J. R. Marable, J. A. Stevens, W. L. Hudson, Henry Sloan, J. H. Benton, Wright Hall.

The thanks of the Board were, by unanimous vote, tendered Dr. Holmes for his very able and appropriate remarks upon sanitary and preventive medicine.

The following preamble and resolutions, offered by Dr. Holmes, were adopted:

"WHEREAS, The Legislature, during the last session, seeing the necessity for hygienic laws for the protection of the health and lives of the citizens of the State, and yielding to physicians as a class in matters purely sanitary, have enacted laws for the organization of Boards of Health for each county in the State, defining clearly who shall compose said boards and their duties, therefore we present for consideration and adoption the following:

"*Resolved*, That, in obedience to said law, we proceed to organize a Board of Health for the county of Sampson of those persons eligible to membership.

"*Resolved*, That there is a necessity and room for reform, and this being the most important of any of our relations to the State, with united front we will, by searching investigation, do all in our power for the health of our people, as required by duty and law, by an effort to stay or mitigate preventable diseases, proving that a health board is not only beneficial, but a necessity.

"*Resolved*, That the thanks of the medical profession as a body are due, and are hereby tendered, to the members of the Legislature for the appreciation of the efforts of the North Carolina Medical Society in behalf of sanitary and preventive medicine by the passage of this wise and humane law,

"*Resolved*, That in the election of officers a majority of those entitled to vote shall secure an election, and that we proceed *at once* to elect a Superintendent of the County Board of Health for the unexpired term, as provided by recent act."

Dr. John A. Stevens was elected Superintendent of Health.

The Board then adjourned *sine die*.

J. H. BENTON, Secretary.

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WE regret to record the death of Dr. F. D. Cunningham, of Richmond. He was a man of excellent ability, and leaves the substantial reputation of a versatile physician. He was only 49 years old when he died.

WILMINGTON, N. C., October 6, 1885.

Dr. THOS. F. WOOD, *Editor North Carolina Medical Journal:*

Please mention in the NORTH CAROLINA MEDICAL JOURNAL that the name of Dr. Hannibal McD. Little, of Taylorsville, Alexander county, North Carolina, should be included in the list of those who were granted permanent license to practice medicine by the Board of Medical Examiners, at their meeting in Asheville August the 29th, 1885.

Very truly, W. J. H. BELLAMY, M.D., Secretary.

READING NOTICES.

Mellier's Standard Saddle-Bags and Buggy-Cases received the highest award (the Gold Medal) at the World's Exposition, New Orleans.

——(o)——

I have prescribed Aletris Cordial in cases of painful and irregular menstruation, and find it the best remedy I have ever tried for the above named troubles. I would earnestly recommend a trial of it to my professional brothers, being assured that they, like myself, would not be without it. F. E. THOROLD, M.D.

Jamestown, D. Ter.

——(o)——

Mr. Chamberlain :—Dear Sir :—I have received by express your patent Seat, invented for Hemorrhoids, etc. I have used it but a short time, but with decided advantage. It has my hearty approval, and hope it may be received with popular favor, and that you may be amply compensated for the service rendered to the afflicted and sufferixg. I have to thank you for the invention, as must many others who may use it.

Yours respectfully,

W. N. H. SMITH,

Chief-Justice of North Carolina.

Raleigh, N. C.

NORTH CAROLINA MEDICAL JOURNAL.

THOMAS F. WOOD, M. D., Editor.

Number 5. Wilmington, November, 1885. Vol. 16.

ORIGINAL COMMUNICATIONS.

DE LUNATICO INQUIRENDO.

Reported by W. C. McDuffie, M.D., of Fayetteville.

Sometime in October, 1884, a very insignificant specimen of the *genus homo*, called Joseph Howard, in a drunken brawl killed another white man in Cumberland county, a few miles east of Fayetteville. He was at once arrested, tried and convicted of murder. At the same term of the court a negro man was also convicted of murder. An appeal to the Supreme Court was taken in both cases. Before the decision of said court was heard from another Superior Court was held in this county, and still another negro was tried and convicted of murder, and an appeal in his case was also taken.

The Supreme Court affirmed the judgments of the courts below in all three of the cases, and at the June term of our Superior Court the three men were resentenced, and July the 25th the day fixed for the triple execution. It appearing, however, to the satisfaction of Howard's counsel, that the said Howard had become insane at, or soon after his resentence, two affidavits were sent to the Governor—one from the county physician attending at the jail (Dr. W. C. McDuffie), the other from the counsel himself (H. McD. Robinson).

Upon these affidavits the Governor respited Howard for thirteen days, or until the 7th day of August, in order that the usual inquisition might be held, as provided by law, to determine the true mental condition of the prisoner. The regular term of the Superior Court came on the ensuing week, and the prisoner was ordered to be brought before the court, a regular jury empannelled and the case stood for trial. By this time, however, the community was wrought up to a high pitch of excitement by a portion of the citizens becoming alarmed, as they alleged, lest a mob would be raised and that violence and lawlessness and "old Harry" generally would take place. They called a town meeting and passed resolutions, denounced Howard as a "premeditated murderer," boldly denied his insanity, and called upon the Governor to respite the two negroes until the 7th of August also. These *indignants* were white men and good citizens, but unnecessarily alarmed. This feeling spread, and by the time the trial came on there was a perfect clamor for vengeance on Howard, and a demand for his blood as a peace-offering. It was simply incredible how this prejudice diffused itself into the minds of so many and swelled the cry for the triple hanging. As evidence of this, I have in my possession now letters and pictures most revolting, regular "raw-head and bloody-bones"; the letters couched in the most threatening language, warning the counsel of his certain doom if he persisted another day in defence of Howard. These were sent through the mail to the counsel (of course from some miscreant) and no notice paid to them.

At the first trial it was the "State vs. Joseph Howard;" now it was "the world, the flesh and the devil vs. Joe Howard," as well as the State. Insanity, instead of a disease, was a worse crime than murder in the first degree, and all this "tempest in a teapot" was inexplicable upon any other hypothesis than that Howard should have had better sense than to go crazy at such a critical time, or that it would be so lonesome for the two negroes to shuffle off the coil by themselves.

With this flood of opposition Howard came before a jury of twelve men, good men, and as fair men as you could get in any county, yet men unacquainted with the subtleties of insanity, and therefore incompetent, as I contend, to try such an issue, and it is with a hope of being instrumental in preventing in the future such another farce that I lay this case before the profession, to show the folly of the present system of holding an inquest on the mind with a jury of laymen, and therefore the necessity of a change in the law regulating such trials.

I cannot give, neither is it necessary to give, all the details of this grand burlesque. I will give enough to enable any reasonable and educated medical expert to come to the same conclusion that I have in regard to the defect in the law, whether they agree with my diagnosis or not.

I copy *verbatim* from Judge MacRae's notes, kindly furnished me after the trial :

" The issue to be tried

" Is the prisoner, Joseph Howard, at the present time insane? 1st witness examined—

" Doct. W. C. McDuffie, being sworn, says : ' I have made nervous diseases somewhat a specialty in my practice of thirty years ; have known the prisoner twenty years ; only knew him as physician and patient ; have treated him as a charity patient, and prescribed for him when he was not ; I have treated him for disease of the heart chiefly, also for intermittent fever and fistula in Ano ; he has hypertrophy of heart now ; since October, 1884, he has been in jail, and from close observation by regular visits I saw a manifest change in his mental condition on the 5th of June—the day of his resentence—and from that time to this his condition has varied ; his conduct at that time and for some ten days after was maniacal ; I attributed this to the great mental shock produced by sentence of death ; sometimes since that time he has been nearly as coherent as he formerly was, but never entirely so, never perfectly lucid ; answered questions, sometimes correctly, but unable to hold or carry on any lengthened conversation ; marked physical debility, without taking food for several days at a time, without sleep, when mania was visibly marked at his first attack, in which condition he remained for some eight or ten days, and paid no attention to what was said to him, or to personal cleanliness or personal comfort, tore up his blankets and buckets, and befouled himself ; there was not complete dementia after this, only partial—if complete had existed, there would have been total oblivion to surrounding circumstances. Difference between mania and dementia—his violent actions were maniacal, his indifference was dementia ; sometimes mania subsides, and there are lucid intervals ; sometimes dementia follows mania, as in his case. There is generally more uniformity of conduct in dementia, and it is more regularly continuous ; he is perhaps to-day, and for the past week, in a better condition than the week before, but even to-day, as you see him there before you, he does not comprehend the momentous events which are here transpiring, events, too, of such tremendous consequence to him ; his refusal to take food was only a symptom of insanity, when taken in connection with his other actions ; the expression of his eyes from that day (June 5th) has been unnatural, an expression that is not deceptive, and a very good test to an exp rienced observer ; many peculiarities indicate the unsettled state of his intellect ; he has delusions sometimes—imagines snakes are after him, puts up his blankets in his cell in various silly ways to keep them off, a continual disposition to crawl behind his imaginary screen to hide from observation ; sometimes an oblivious indifference to everything around him ; the weather being extremely hot, he complained of being cold, wrapping himself up in his blankets, yet when I would examine him I would find him hot and the action of his heart greatly disturbed ; complained of roaring in his ears, pain in his head and left side ; when he would complain or talk at all, and when his voice failed him, he would make signs to his head and side and put his fingers to his ears. I believe much of this suffering arises from hypertrophy of the heart ; silence not so much a symptom of mania as it is of dementia ; his refusal to talk was from inability ; aphasia caused by shock ; alcohol in such cases might have temporary effect in restoring voice. There is such a variety in healthy mental conditions, as well as in insanity, that each individual case should be considered by itself ; mania and dementia can alternate and sometimes do, as in this case ; mania very often occurs gradually, and may be for a long time undetected ; when it occurs suddenly, from shock, fright, or sudden disappointment, it is classed by some authorities as acute primary dementia ; attempts at suicide a symptom of mania ; lucid intervals more common in mania than in dementia ; there are no really lucid intervals in chronic dementia ; there have been no perfectly lucid intervals in the prisoner's case ;

only relatively more sane manifestations one time than at another, but never clear rationality; have seen him so frequently for the past eight weeks, that I can say positively he is now insane.'"

"Cross-examined: 'Feeble condition of mind and body not positive evidence of insanity; weak physical condition consistent with mental health; A. H. Stephens an illustration; all these symptoms could not be feigned in his case, because he did not possess the mental capacity or knowledge of feigning, nor could he have held out undetected for so long a time; I did my utmost to arrive at his true mental condition, and am satisfied he was not 'playing a part'; there is a great deal of feigned insanity, especially after the commission of crime; not prepared to say that De Jarnette was a case of feigned insanity, I incline to the belief that he was insane when committed to the asylum, and that he was there cured; I believe there is impulsive mania—emotional insanity; did not say the prisoner was alarmed at the sight of strangers, but said he showed a dread, and would crawl behind his blankets; sudden and real alarm would excite palpitation; I detected no differences; his was an exalted circulation nearly all the time; heart throbbing loudly almost continually; if he was in a natural state sudden alarm would excite the pulse; I discovered no difference when he complained of snakes or showed a dread of strangers; the change in pulse would depend on the degree of excitement; if a crowd came into the jail, his wife among the rest, he apparently knew none of them—others went out and he then recognized his wife—not strong evidence of feigning by itself; mental shock was the cause; he became absolutely deranged immediately after his resentence; not able to say why these symptoms did not appear immediately after his first trial; not able to say *when* a man should go crazy; saw him frequently prior to his last sentence, and observed nothing more than his ordinary manner, or sort of *non-compos mentis* look, which he always had; was not called upon at his trial to testify as to his mental condition, but simply in regard to fistula in connection with blood on his pocket; the first time I was asked by his counsel concerning his insanity was about ten days ago; dictating a connected narrative would be evidence of sanity or lucid interval. [Here a writing was shown witness, said to be a confession of Howard, dictated by him and written by the jailor.] 'I find this disconnected, incoherent, irregular and puerile; don't know who is to blame for it, the one who wrote or the one who dictated; it is not evidence within itself of sanity; an act of memory not evidence particularly of sanity; most insane persons have good memories; as to recent events memory may be bad; the act itself might be the chief thing on his mind; don't generally lose memory of exciting cause; if a man charged with murder give an account of facts coinciding with the proof, but leaves out the main fact, that might be evidence of feigning, or if a person would do an act which was clearly intended to excite the notice of visitors to make them think him insane, of course that would be feigning; I have never seen any such actions by the prisoner during the long attendance upon him in jail for the past ten weeks; don't think the opinions of non-experts are worth much; they can testify to the actions of the person, and their statements of those actions are worth just so much as facts, but their *opinions* of those acts are worth nothing; the science is too intricate; a man cannot ordinarily control his pulse, or the action of his heart, or the expression of the eye; it is possible for a man to become insane from violent mental shock and afterwards remember that incident; insane persons frequently have more confidence in their keepers than they have in others; it is difficult sometimes for an expert to make up his mind as to the sanity or insanity of a given case.'"

"The prisoner's counsel rested here."

Then came a cloud of witnesses for the State—non-experts—but from the ease and self-confidence with which most of them handled the subject, you would have supposed they were experienced alienists—some thirty or more. I must be excused from detailing their very valuable testimony, it is unnecessary, as they all agreed in *opinion*, and pronounced him sane.

Only two of the medical witnesses for the State examined the prisoner, and, as they agreed, in the main, in their testimony, it will be sufficient for the purpose of this report to give the testimony of one, which I again take *verbatim* from the Judge's notes:

"Doct. J. W. McNeill, being sworn, says: 'I am a graduate of Bellevue College, New York; practiced ten years; have had occasion to treat persons suffering with disease of the mind; have not made it a specialty; disease of the mind a branch of the science; a person in robust health, under sudden alarm, there would be a change in the pulse; one in feeble health, excited, would be fully as much, if not more; have seen the prisoner five times in jail, observed his actions, paid special attention to it; have heard all the witnesses testify; assuming that it be true and the jury believe it, I would say he is sane; this is leaving out the expert testimony; I saw and noticed his actions and manner in jail every time I was there; I could not get much out of him; he would answer me in a foolish way; I tried him in a great many ways; I examined him physically, to see if he showed the marks of an insane man, and tried to catch him in different ways; he would be talking in a foolish way—suddenly asked him about his children; said he had no children, but the tears came in his eyes; while talking to him asked if he knew Cullen Blackman; he turned red in the face—denied knowing him; when he would appear frightened and go and wrap himself in his blanket, I would follow him and find his pulse as before; first time I visited his cell, two or three of us, we went to the door, the jailor made a noise, he dashed back to his blankets, and I went back and peeped over and he was wrapping himself in his blanket; this was repeated the second day, and I thought it indicated insanity, but the third time when I peeped over he was peeping over at us; I did not think his eyes indicated insanity; I asked him about hanging; he said what is that; I explained about rope around his neck and dropping him off and killing him; he made a tremendous to do, and said they wouldn't do that, would they? Found once that he had deposited fæces directly in the path where we would have to come to his pallet, some three or four feet from him—indicated method; if excitement was real pulse would be excited; my opinion is he is playing a part, though I will not swear positively; it is a hard, a very difficult matter to say whether he is insane or not; he acts mostly as if playing a part; there are some other things which I have not been able to see through and explain, but some things being feigned make me believe others are; some of those I can't see through indicate mental disease; his weakness physically, without apparent cause, would indicate mental disease; Sheriff McQueen has testified to acts indicating insanity, but all of which might have been feigned; judge of insanity by series of acts—very hard to simulate it—some forms can't be kept up long; cunning not inconsistent with insanity; insane often suspicious; have not observed insane persons refuse to talk except upon subjects on which they were insane; one time I went in, found him lying then; would not answer me; asked him several questions; finally took out a vial of whiskey, asked him if he would have a drink; he said he would; and if he wanted water; he said no; never tried whiskey on insane man but in this case; a man might assume an idiotic expression to an inexperienced man; the fact of tearing up blankets, buckets, etc., indicates mania; don't know that there is such a case on record as a man who takes his meals regularly and never talks to his keeper, or to his wife or friends for two or three weeks at a time; to lie there and to befoul himself, not to speak to anyone, would require considerable effort, but it would require more effort to keep up mania as he commenced; delusions about snake-bites consistent with insanity; I went there and tried to look at him as insane; had heard he was shamming; tried to unprejudice my mind; went there to test him; irregularities of pupil of eye, tremor about the tongue physical indications of insanity; not satisfied about the eyelids, think they are steady in most forms of insanity, pains in side and breast not necessary indications, pain in head one of the best tests of insanity; insane expression of eye cannot be assumed; insanity often results from moral shock, great fear; the insane sometimes engage in perfectly rational conversation; hard to tell from a few visits what the mental condition is; physician who knew him all his life and treated him more competent to judge of his condition than others; dementia sometimes or generally preceded by mania; one case of insanity cannot be compared with any one single case, but can with insanity generally; it is possible that he is insane; don't think I expressed considerable doubt as to his sanity; I said he was a puzzle; there are several symptoms of insanity; I think I satisfied myself they were feigned, most of them; I never examined the pulse of an insane man when he was frightened; you can't tell by the pulse whether a man is insane or not; I examined his pulse ten minutes before he appeared to be frightened, and again when he appeared so, and found no change; if it was only a suspicion it would not affect the pulse, but a sudden shock would; I noticed when you spoke to him privately or in a whisper, he would speak more freely than when you spoke out to him; this indicates either cunning or insanity; a man would have to be pretty intelligent to do it well; I suppose people generally think of a crazy man as a raving maniac; I could not swear positively whether he is insane or not, but my opinion is that he is feigning; he is very pale and haggard; they are so generally in dementia—broken down, weak; a man in feeble health, confined a long time in jail, would be apt to decline in health; did not discover those symptoms in him which could not be feigned.'"

The only other medical witness for the State who examined the prisoner, was Dr. Ivy, and his testimony was the same, in substance, as Dr. McNeill's, they having seen him together, and only some five times.

The testimony of the non-experts, as before stated, is not necessary for the enlightenment of the medical jurists who are to read this recital of a very humiliating spectacle; yet I think it but just to all concerned that the *facts* testified to by the only persons who had the *opportunity* to know, should be given—that of the sheriff and jailor, who were in daily contact with the prisoner during the whole time of his imprisonment—not for the purpose of benefitting the prisoner (it is too late for that), but to show that juries will regard the *opinion* of a witness as well as a statement of *facts*.

Again from the record:

"Sheriff McQueen, being sworn, says: 'W. R. Clark is my jailor; I have known the prisoner since January, when I took charge as sheriff; have seen him very frequently since his last sentence; first time I saw him after his resentence he did not care to talk, and his condition was such that I thought he needed pretty close attention; he refused to talk to me, or to the doctor, or the preacher, or his wife; I told the jailor once that I thought he ought to have stimulants; I asked him if he would like to have a drink, he said yes; I got Mr. Myrover to go with me and carry a vial of whiskey; he would not talk at first, but I gave him a drink, and told him he ought to make a clean breast of his case, that Mr. Myrover was a reporter and would take it down; I went outside, and heard him tell Mr. Myrover about it; afterwards I went in and told him to clean up his room, that the preacher wanted to visit him, etc; up to the interview with Myrover, I thought him insane, but since that I think he is sane; he refused to speak to anyone for about two weeks, tore up his buckets and his clothes, befouled himself, had very little expression, kept his eyes shut a great deal of the time; saw how his blankets were fixed up in his cell; about two weeks ago, one Sunday evening, I went in, spoke kindly to him, he spoke to me, shook hands and kissed the back of my hand.'"

"W. R. Clark, jailor, being sworn, says: 'I have seen the prisoner two or three times a day since December the tenth, oftener lately, as visitors were going in and out; have noticed his manners and actions from December 10th to his resentence, June 5th; saw nothing unusual; after his resentence I noticed something wrong; he broke up buckets, tore up clothes, would not speak, would not eat, except now and then he would eat part of his meals; after his resentence he got so he would not speak to anybody, or notice anybody or anything, not even his wife or anybody else, for some ten days; after that he would talk to her; his manner was different when alone with me from what it was when a crowd was there, except the ten days; he would look around, and one morning he told me snakes bit him, showed me a little blood on his toe; I told him I reckoned it was a rat; he told me about pretty snakes afterwards; he complained of severe pain in left side and roaring in his head, and his mind appeared to be wandering; when he would get some better of that his mind appeared better; I think he is sane; I said I had doubts during those ten days when he would not speak; when he was resentenced I noticed him looking about; complained of flies; kicked the banister; I told him to stop, and he did stop; I told him not to tear up his blanket—to make fish nets; he said it was an old one; sometimes don't complain of his side and head for a week, then complains of roaring in his head.'"

After able arguments on both sides, and the law, as it is laid down, explained by an impartial judge, the jury took the case and deliberated several hours, but finally brought in a verdict of sanity. Thus ended a matter really of no great consequence to the community; for death was the same as confinement in an asylum, and, as it turned out on the gallows, not much interest to Howard. But it was a matter, I think, of vital importance to science and of intense interest to that portion of our profession which takes a hopeful view of the advanced step we have made towards a higher standard of medical jurisprudence in North Carolina:

The subsequent history of the prisoner's life, though short (only a few days), was full of interest to one who, against a sea of opposition, had stood the denunciations of ignorance and prejudice, and declared what he believed to be the true condition of the unfortunate man, regardless of public opinion or private remonstrance. The some manifestations of mental disorder followed him to the gallows, and there, before three thousand gaping spectators, he showed the silly face and childish actions of the poor demented creature that he was, and behaved to the very last—on the very threshold of eternity—in such a manner as no sane man could have done. It would even be impossible to imagine a hardened devil incarnate meeting death with such perfect indifference. From the second day after the farce at the court house he continued to tear off his clothes. The fatal morning he was visited by the preacher and the doctor. He was rather calmer than common, but not intelligent. He told the minister who had been so constant a visitor to him that he did not remember to have ever seen him before. He did not realize the purport of questions or answers, as everyone could see; asked if he knew he was to die to-day. "Oh yes." When the fatal spot was reached his idiotic delight at the grand pageant did not abate. He mounted the gallows with a *sang froid* that was worthy of Guiteau, and satisfied every unprejudiced man that saw him that his actions throughout surpassed anything, for a gallows scene, ever witnessed by anybody in that assemblage. It did not require an expert to pronounce his actions those of an irrational being. He plainly showed that he did not comprehend or realize the absolute certainty of death. How could he? He was silly, childish, frivolous, demented, deranged, and vacantly gazed upon the whole paraphernalia as an entertainment. The trap fell, and thus, through the law's own defect, was executed a crazy man, as the law does not direct. Before suggesting a *remedy*, let us turn for a few moments to some authorities on the *diagnosis* of insanity, and see how the symptoms described in Howard's case coincide with the books. "Simple dementia is generally consecutive to mania, and sometimes produced by accident and mental shock. It is a condition of which *weakness of the intellect* is the most prominent feature. The mind is altogether feeble, the ideas confused, vague and wandering, and the *memory is impaired;* there are paroxysms of *restlessness* and *excitement;* the patient's are ignorant of time, place and quantity; their manners are *undecided, childish and silly;* their *conversation is incoherent*, and they repeat sentences without attaching any precise meaning to them. *They see their best friends without pleasure and they leave them without regret.* Cerebral atrophy is a constant concomitant of dementia, its extent varying with the loss of mental power."—*Woodman and Tidy.* Again: "Dementia, imbecility, fatuity, and the like, those terminal forms of mingled mental and bodily weakness into which all the others, if not cured, lapse in the course of time." "Dementia may follow diseases of the *circulatory*, respiratory and secreting organs, degeneration of tissues, and other diseases of the brain. The vast majority of our asylum patients belong to this class of dementia consecutive on other forms of mental disease; *there is a charcter of feebleness in all they say, do or think, resembling idiocy or childishness*, or the apathetic state induced by brain disease. Reason, judgment, imagination, perception, and all the rest of the intellectual powers are also feeble. Their mental horizon is a very small one."—*Ibid.* Dr. Guy says: "The acute form of dementia is known to arise from mental shock, fright, etc., and thus acute dementia uncured becomes chronic, and it is also frequently consecutive to other forms of insanity, and thus the maniac, monomaniac, melancholic, or the epileptic patient becomes demented, second childishness, and finally oblivion overwhelm him." The world-wide famed Carlotta illustrates this form of insanity; so also Reil's wife, in Canada, who has recently become deranged from the shock at her husband's conviction. Examples might be multipled. Dr. Taylor says of lucid intervals: "At those periods in which an insane person is free from his insanity or delusions, *a remission is a mere abatement of symptoms*," and further, that "these intervals may be of longer or shorter duration, varying from a few hours to weeks, or months, but *distinct lucid intervals are more likely to be exhibited in mania than in dementia.*" Drs. Bucknill and Tuke say "they are less likely to occur in dementia," and that "delusions occasioned by cerebro-mental disease take their place, *where the bodily health is impaired,* as Howard's was, all through the long weeks of his confinement.

Woodman and Tidy, in their "Forensic Medicine and Toxicology," lay down valuable rules and directions for examining suspected lunatics. They say that "the best methods of scientific diagnosis now used by skilled psychologists includes a thorough physical investigation. Ascertain if there has been any change of habits, that is, in mode of living, or the existence of renal, pulmonary or *cardiac* disease; valvular or other diseases of the heart, as dilatation. *Hypertrophy* and degeneration are common in the insane." Howard had hypertrophy. Again: "Painful affections of the lower bowels and arms have a depressing influence on the mind; we have known a man's character completely altered by the cure of a fistula in

Ano." Howard had fistula. Dr. Bucknill, on the same subject, of detecting insanity, says: "Notice any peculiarities of bodily condition and the *expression of the countenance.*" Dr. Bushman, in his "Hints for Certifying in Cases of Insanity," says: "Observe the physiognomy, attitude, gestures, words and manner of speaking, muscular power and organic functions," and very cleverly says: "Do not be too hasty in assuming that all the information derived from others is correct; found your opinion on matters observed by yourself." And Woodman, again, in speaking of feigned insanity, says: "It is difficult frequently to detect feigned insanity, except by *continued* observation and a *knowledge of the patient's previous history,* and rather than condemn the innocent, or allow the guilty to go unpunished, you should ask for extension of time, when your opinion is asked; far better that a trial should be postponed for a few weeks or months, than that you should commit an injustice or give a hasty opinion, which you may afterwards bitterly regret."

Bucknill closes his directions with this wholesome admonition: "In medico-legal cases let the physician avoid becoming a partisan on either side."

Compare the descriptions of the prisoner's condition and actions, as given by the sheriff and jailor, as well the statements of Dr. McNeill and my own testimony, including his previous history, as well as his subsequent history, and see if they do not agree with the books upon this form of mental disease, no matter what our opinions may be. I might go on, from one authority to another, touching insanity, real and feigned; but this article has reached a sufficient length to enable the profession to grasp its most important relations; and I must come to the suggestion of a remedy which, if applied, will forever prevent the evil of trying the issue of insanity by a jury of laymen.

It is well known that the present jury system, while it is the only, and perhaps the best, means by which justice can be obtained in litigation, both civil and criminal, and that its development is generally regarded as one of the greatest achievements of English jurisprudence; yet it is deficient in some particulars, one of which is its misapplication in the trial of insanity. It never was designed for such an enquiry; I mean the common jury of twelve freeholders, as is invariably employed in the superior courts. The intention of the writ "*De Lunatico Inquirendo*" was nothing else than that it should be *a jury of inquest on the mind*, and that such jury should be special, and composed of men who were indeed, as well as in theory, masters of the facts that came before them ; upon the same principle that the writ "*De Ventre Inspiciendo*" was intended for the examination of a female prisoner condemned to death, and pleads pregnancy in stay of execution, a jury of matrons was resorted to. The law as it now stands in the Code of North Carolina, reads as follows :

"The judges of the Superior Court in their respective districts shall commit to the proper asylum as a patient any person who may be confined in jail on a criminal charge of any kind or degree, whenever the judge shall be satisfied by the verdict of a jury of inquisition that the alleged criminal act was committed while such person was insane, and that such insanity continues; and also, any person acquitted upon a criminal charge, when on the trial of such person insanity was relied upon as defence; *Provided*, the fact of insanity was found as a distinct issue to exist at the time of such trial, *or is so found by a jury of inquisition, as such judge may direct.*" (Sec. 2225, Chap. 2, Code of North Carolina, 1883.)

Now, it is clear from this section that the judge has the discretion to form such a jury of inquisition of such material as he may select, the law *neglecting* to define the qualifications that such *special* jurors should possess, only authorizing the judge to commit, upon the finding of a jury of inquisition, "such as he may direct." To effect the desired change requires but a slight amendment to this section. Let the words "three medical experts" be substituted for the word "inquisition," where it occurs in the section, or let it read, "by a jury of inquisition composed of three medical experts as such judge may direct." This merely defines the qualification of a special juror, and does not in the least infringe upon the judge's prerogative. The law defines the qualifications of jurors in general, why not in the special case? Where is the objection to this change? Not with the counsel for the prisoner, for here in this quiet shade of deliberate and impartial investigation, with the light of science to guide, and where no crude doubts could affect the judgment, the prisoner, be he high or low, would get exactly what he deserved ; and the State surely wants no crazy man's blood, even in expiation for crime or for the purpose of suppressing crime. She has too well provided for the care of her unfortunate insane to be charged with such inhumanity. Then why not ask the Legislature at its next session to amend the above section. If it be objected to because the Bill of Rights guarantees to every man a trial by his peers, I answer this does not apply where the issue is insanity, and if it did, who is the peer of the insane man? Not another insane man. Then who is, if it be not the experienced alienist, the thoroughly educated medical expert, he who can go down into the gloomiest abodes of melancholy with the lost intellect, or soar with the wildest fancy of the maniac into the remote regions of diseased imagination? Selah.

CASE OF CÆSAREAN SECTION AFTER DEATH OF MOTHER—LIVING CHILD REMOVED.

By J. Mack Hays, M.D., Oxford, N. C.

A short while after 8 o'clock on the evening of the 3d instant (October) I was hastily summoned to the wife of Mr. C., living seven miles distant. On reaching the house I was informed that the patient was too far gone for me to do her any good. The following history was briefly given me: About four hours previously Mrs. C. was in the yard looking after her domestic affairs and enjoying, apparently, her ordinary good health, when she was suddenly attacked with a violent headache and sent in haste for her husband at the mill, a hundred yards distant. When he reached the house she told him to send at once for the doctor, as she felt very sick and her head hurt her terribly; then, throwing her hand to the back of her head, fell on the bed with the exclamation, "I can't stand it!" She was speechless from that moment, vomited frequently for some little time, several times threw her left hand to her head, and sank rapidly into the condition in which I found her. She was evidently suffering from an extensive cerebral apoplexy, presenting the following symptoms: complete motor and sensory paralysis of left side of face and right side of body, both pupils widely dilated and totally insensible to a bright light; very slow, stertorous breathing and "drawing in of the paralyzed cheek with inspiration and its puffing out with a sort of explosion in expiration"; pulse rapid and barely perceptible; face pallid. A sharp pinch on the non-paralyzed arm produced no evidence of sensation, nor did the hypodermics of whiskey which I administered as a forlorn hope. The patient was rapidly approaching her end, and was eight and one-half months advanced in pregnancy. I satisfied myself from the husband that the child was probably alive, as he had heard his wife speak of having felt motion the same day. I then laid the case clearly before the husband, telling him that while one life was fast passing away, another was at stake which might be saved even after the mother had breathed her last. He told me to do as I thought best. Accordingly I made the necessary preparations, and, after all evidences of life had disappeared in the mother, and the bystanders sent out of the room, I proceeded without delay with the operation. With one stroke of my scalpel I incised the skin and subcutaneous tissues from the umbilicus nearly to the symphysis pubis; two incisions more, through the linea alba and peritoneum, exposed the uterus to full view; through it I next made an opening as low down as possible and of sufficient size to admit my two fingers, at the same time liberating the liquor amnii. Using my fingers as a director I slit up the uterus to the placenta, which I easily detached. The body of the child was now fully exposed lying in the second cranial position. I lifted it from the uterus, and by exerting some little force to overcome the suction brought to bear upon the head, removed a living male child from its dead mother. The cord was tied and cut as usual. The operation was attended with a very slight loss of blood, and that of a dark venous character.

The unusual shape of the child's head, born without any pressure having been exerted upon it was quite noticeable.

The child is being fed on fresh cows milk, diluted and sweetened, and at the present writing, October 15th, stands a fair chance of being raised. It makes the fourteenth child born of Mrs. C., all of whom are living.

I will not inflict upon the reader any remarks upon the foregoing case, nor will I undertake at this time to give a resumé of previous operations of a similar nature, but would refer all who may be interested in the literature of the subject to the following: *American Journal of Medical Sciences*, October, 1879; *American Journal of*

Obstetrics, January, 1879; *Wiener Medical Wochenschrift*, November 22, 1879; *British Medical Journal*, June 14th, 1879.

My thanks are due Dr. R. P. Harris, of Philadelphia, for kindly directing me in my search after statistics, etc., bearing upon my case.

SELECTED PAPERS.

CHLORATE OF POTASSIUM AS A POISON AND AS A GARGLE.

As the season of sore-throat is drawing near, it is not out of place to call the attention of our readers to a case reported by Dr. Wilkie, of Halle, of alleged poisoning by the use of chlorate of potassium as a gargle, although this case was so reported some months since (*Berlin Med. Wochenschrift*, April 20, 1885). Dr. Wilkie was led by the symptoms to suspect poisoning, and the small quantity of very dark, turbid urine which he drew off by means of the catheter suggested to his mind the chlorate of potassium. Inquiry showed that the patient had been using a solution of the chlorate very freely as a gargle continuously for a long time. Between the 9th of July and the 8th of August it was estimated that he had taken 4 pounds, or 1 3-5 ounces per day. In the latter part of his life the gargle was employed every hour. In spite of treatment, Dr. Wilkie's patient passed rapidly into collapse and died. A very careful autopsy, which is fully reported, seems to conclusively show that the case was one of poisoning by chlorate of potassium, and as this drug is one of our most used and most efficient remedies in angina, it is of great importance to determine how far we are to be influenced in practice by this untoward accident.

It is beyond cavil that the chlorate of potassium is an active poison; the smallest amount of it which will produce death is scarcely known, but in most of the cases of fatal poisoning reported in the adult the dose has been over half an ounce; a drachm of it has killed an infant a year old.

The symptoms of poisoning are fairly uniform. In the rapid cases there have been violent vomiting, profuse diarrhœa, excessive dyspnœa, a great failure of the heart's action, and marked cyanosis. In most of these cases the blood has been found of a chocolate color. In the subacute cases the gastro-intestinal symptoms have been severe, with general vomiting of blackish-green matter and distinct swelling of the liver and the spleen. The urine is markedly lessened in quantity, albuminous, often of an opaque reddish-brown or blackish color, showing under the microscope brownish or yellowish-brown tube-casts, often containing the detritus of blood-corpuscles. Hæmoglobinuria has been noticed, and methæmoglobin is a common constituent of the urine. The nervous symptoms have been severe delirium, coma, tonic and clonic cramps, and a peculiar stiffness of the extremities. Headache, loss of appetite, violent pains in the abdomen and other portions of the body, and marked abdominal tenderness have usually preceded the loss of consciousness. Not rarely upon the surface of the body are there minute ecchymoses, and even more frequently there is a general jaundice. In some cases the patient has rallied and seemed to be on the road to recovery, then the fatal relapse occurred.

After death the blood is usually chocolate-colored, the gastro-intestinal tract inflamed, the liver and spleen are enlarged and filled with the brownish débris of red corpuscles, the marrow and the brain are often similarly colored, whilst the mucous membranes are usually swollen and ecchymosed. The kidneys are profoundly affected, their tubules full of brownish casts, and their epithelial structure evincing a nephritis.

The effect which the drug has upon the kidneys makes its internal use especially dangerous in cases of diphtheria and scarlet fever, and we have no doubt that its too free employment has added very seriously to the mortality of these diseases. It certainly has no direct influence upon these diseases; has no value whatsoever in their treatment save only for the slight effect which it has upon the sore-throat, and if given at all, should be administered with great caution, and in only very small doses.

The local use of the drug has been conceived to be harmless. In the case of Dr. Wilkie, the man evidently was a monomaniac on the subject, and although he denied it, in all probability habitually swallowed a portion of the gargle. In ordinary sore-throats, used three or four times a day as an ingredient of a gargle, the drug is an efficient one, and the small quantity of it that will be swallowed may be of service. It should be remembered that it is very freely eliminated by the salivary glands, so that when it is taken internally the parts about the mouth and throat are continually bathed in its dilute solution. It is in this way by a perpetually local effect that it is useful in ulcerated stomatitis of children. When, however, as in a bad case of diphtheria or scarlet fever, the whole mucous membrane of the throat is covered with thick exudate, it is to our mind absurd to think that the chlorate of potassium is of appreciable value. Remedies of more distinct power and more ability to destroy or make their way through the membrane are to be employed. The momentary application of any properly-diluted gargles under these circumstances is probably a very slight advantage. Local application should be made with a swab by the physician himself to the throat of the patient.

We do not think that the experience of Dr. Wilkie should prevent the habitual use of chlorate in mild cases of anigma, but it should give us caution in any attempt to make a very powerful local impression by very frequent use of it as a gargle in severe cases. After all, there are other remedies, even in mild cases, which are as efficacious, and are devoid even of the suspicion of deleterious influence.—*Therapeutic Gazette.*

NOTE ON THE SUBCUTANEOUS INJECTION OF SALTS OF QUININE.

By Lauchlan Aitken, M.D., Rome.

Read in the Section of Pharmacology and Therapeutics at the Annual Meeting of the British Medical Association in Cardiff.

The occasional necessity for the injection of quinine subcutaneously, not only in severe malarial affections, but also for antipyretic purposes, must have compelled many physicians to reflect on the best methods of avoiding the disagreeable consequences which too often follow such a use of most of the salts of that drug. So frequent, indeed, are the unpleasant sequelæ of this mode of employing them, that most practical men probably only reluctantly resort to it, where no other channel for the successful administration of the medicine seems available. It is beyond the scope of this short note to enter into any minute details of the nature of these accidents, to which, however, sufficient importance is not attributed, even in the most recent text-books. Both in my own practice, and more particularly in consultation, cases of the kind have come under observation. Of these, the most important have been one of a form of septicæmic poisoning, one of violent inflammation in the course of the veins, and one of a long persistent and very painful sciatica, all of which seemed certainly to be justly attributable to such hypodermic injections. Less important local evils are, of course, relatively much more common. Irritability and extensive erythema, ulceration of the skin and abscesses at the points of injection, and painful and lasting inflammatory indurations of the subcutaneous cellular tissue, are the most frequently observed of the minor injurious effects. Even when no local mischief ensues, the mere temporary pain, accompanying the hypodermic injection of salts of quinine, has been so marked as to induce many practitioners to try to mitigate it by adding morphine or atropine to the solutions they employed. It is probably owing to the unsatisfactory results from all such combinations, that nearly everyone who has been forced to make any extensive use of quinine subcutaneously, has thought it necessary warmly to recommend some one or other of its salts, or combination of its salts with other drugs, as the only effectual means of preventing the accidents which have been alluded to.

It is generally a violent and pernicious malarial complaints, in which both the stomach and rectum are so irritable that medicines are not retained long enough to permit of their satisfactory absorption into the system; or where, without such irritability, there is some mechanical obstacle to the administration of food and medicine by the mouth, and we wish to reserve the rectum for the purpose of nourishing the patient; and occasionally, too, in a few cases of hyperpyrexia, in which the danger from excess of heat is imminent, while other methods of reducing the temperature are contra-indicated, and every minute is of value, that resort must be had to the hypodermic injection of such powerful antipyretics as quinine, in quantities likely to produce a rapid fall of temperature. There are probably great differences of opinion as to the doses required under such circumstances, but I have thought it necessary, more than once, to put as much as thirty grains of quinine under the skin in a few hours' time. As it is scarcely possible to inject more than five grains at any one point—smaller doses, indeed, such as two or three grains, being distinctly preferable—the number of injections, and the pain produced, are matters of no small importance. The method I have latterly adopted has given decidedly better results than any previously tried, and can be stated in a few words. The two best salts of quinine to use are the bisulphate and hydrochlorate. Both are fairly soluble without acids, but the bisulphate has the advantage of being considerably the cheaper. One grain of that salt will dissolve readily in six minims of equal parts of the purest glycerine and of distilled water at the temperature of the body, and when thrown, at that temperature, into the looser subcutaneous cellular tissue—the only part into which quinine should be injected—will be rapidly absorbed without deposition of any crystals of the drug. To this solution two per cent. of pure carbolic acid must be added. Thirty minims of such a solution, containing five grains of the bisulphate, may then be used for one injection from a syringe of double the average capacity—now, as a rule, just about fifteen minims; and although it is probably better, as previously mentioned, to inject less at one point, no local or general injurious results have followed the numerous applications of the maximum quantity stated, which have been made since I have been in the habit of adding the carbolic acid to the diluted glycerine-solution of the quinine. The local anæsthetic action of the carbolic acid, too, is unquestionably of great value in diminishing the pain attending the hypodermic use of such an irritating medicine as quinine.—*Brit. Med. Jour.*

Turpentine in Malignant Tumors.—Prof. Vingt, of Barcelona, employs a hypodermic injection consisting of one part of turpentine and two parts of alcohol in carcinoma and sarcoma, and has frequently succeeded (as reported in the *Revista de Ciencias Medicas*, No. 1, 1885) in causing these neoplasms to disappear. A local inflammation with fever, lasting about eight days, was the usual consequence of the injection.

ON THE PHYSIOLOGICAL AND THERAPEUTIC ACTION OF EUCALYPTUS GLOBULUS.

If extensive applicability and promptness of action are the criterion of a standard remedy, the preparations of eucalyptus globulus have an unquestionable claim to be included in this category. Still, looking over an apothecary's prescription file, we would be surprised to find how rarely this drug is actually exhibited. To those, however, familiar with the clinical employment of the remedies in question, it must be clear that the practitioner's lack of practical acquaintance with, and confidence in, the drug, rather than any want of therapeutic energy on the part of the plant, have caused this condition. There can be no doubt as to the medicinal virtues of the various preparations of eucalyptus, when we consider that the tree itself, in its natural state, medicates by its powerful antiseptic properties a wide zone encircling its habitation.

We have noted in *La France Médicale* (Nos. 43, 44, 45, 1885) a series of interesting articles on the medicinal virtues of this justly-prized tree, from which we extract some practically important matters.

According to Chipier, the author of the papers quoted, the well-known disinfectant properties of the tree depend upon an essential oil contained in the leaves. The aromatic oil found in the other portions of the tree is credited with the other therapeutic effects of eucalyptus. The action of eucalyptole and eucalyptene, two other components of the eucalyptus-tree, have hitherto been but little studied.

In France five different preparations of eucalyptus are in use, viz: 1. A tincture made by an alcoholic maceration of the fresh leaves. 2. A tincture obtained from the dry leaves by the same process. 3. An alcoholic extract. 4. A wine. 5. A liniment prepared from the essence. It is interesting to note that the preparations used in Italy against the marsh-fevers in Rome and its vicinity all come from a place called Trois-Fontaines, and have the form of a highly concentrated ethereal extract and an alcoholic elixir. The physiological action of eucalyptus is sufficiently interesting to repay us for briefly reviewing it.

All preparations are marked by a peculiar, strong odor, suggesting the essence. If a few drops of any eucalyptus preparation are placed on the tongue, a sensation of pungent freshness, soon followed by one of warmth, is experienced, the latter being due to an hyper-secretion of the salivary and buccal glands. Its ingestion into the stomach creates a similar sensation of warmth, and, besides, an emission of its characteristic odor by the mouth. The urine reveals a faintly violet coloration, indicating the passage of the drug through the system.

The fact that eucalyptus, like balsams and essences, impregnates the mucous membranes in particular, suggests at once the utility to be derived from the drug in inflammatory conditions of the respiratory and urinary mucous passages.

Larger doses of the drug produce headache, malaise, general fatigue and prostration, and even, as shown by Gimpert, fatal results in animals by paralyzing the reflex motor centres of the spinal cord.

From the manifold therapeutic applications which eucalyptus has found in the course of time, we will only review such as have earned a claim to our confidence.

Rumel is to be credited with having first suggested the idea of planting the three with the view of thus ridding a territory from the baneful marsh and malarial fevers. The same object led to its cultivation in the English Cape colonies and the western shores of Middle Italy. It was this ingenious transplantation of the Australian tree to the vicinity of Rome that entitled the Trappists of Trois-Fontaines to recover and render inhabitable a vast area formerly exposed to the ravages of malaria. It is highly probable that the disinfectant power of the tree depends upon its capacity to absorb large quantities of water from the surrounding soil, and to thus desiccate the germs of malaria. The success of this soil-medication in Italy, Algiers, Cuba and South America, naturally suggested the employment of eucalyptus in intermittent fever. Of an infusion of 8 grammes (2 drachms) of the leaves in 120 grammes (5 oz.) of water, a cupful is usually given twice daily. It is well to remember the antiperiodic virtues of eucalyptus in cases in which quinine has either failed or is contraindicated. In fact, eucalyptus is better borne by the digestive system than quinine, fatigues the stomach less, and is far less expensive. Still, it would be wholly erroneous to think of any possible therapeutic equivalence of eucalyptus and quinine. An honorable and noteworthy rank as an auxiliary remedy in miasmatic fevers is all that can with propriety be claimed for the preparations of eucalyptus.

The statement that eucalyptus asserts its antipyretic character also in the thermal elevations of tuberculosis and cancer appears, if true, to us all the more noteworthy, as its virtues in this direction have been almost generally overlooked.

Important as the antimiasmatic and antipyretic properties of eucalyptus unquestionably are, it is in the laryngeal and bronchial inflammatory affections that the drug renders its most signal services. Its action in this respect rivals that of turpentine and tar, and offers even advantages in being better borne by the digestive organs, and being earlier administrable. When, in the case of bronchitis, the febrile elevation has fallen and the so-called catarrhal stage has been reached, eucalyptus positively diminishes the expectoration, and renders it less purulent. This peculiar effect of eucalyptus on the bronchial expectoration can be relied upon, especially in the fetid form of bronchitis, in bronchial dilatation and emphysema. Chipier quotes several cases of pulmonary gangrene and tuberculosis in which this modification of the expectoration wrought by eucalyptus was very obvious.

A few more words on the especial value of the drug in pulmonary consumption will not be out of place. Though no rational physician will look for any specific or even curative virtues regarding consumption in eucalyptus more than in any other drug, it must be confessed that the peculiar combination of antiseptic and anticatarrhal properties places eucalyptus at the head of all remedies from which any amelioration of the local tissue-decomposition can be expected. In Italy the drug enjoys the enviable reputation of positively benefiting tubercular patients. Dr. Gimpert, of Cannes, a well-known specialist of that famous tubercular sanitarium, expresses himself in terms of highest praise of eucalyptus in the various tubercular processes. He warns, however, against exhibiting the drug in too large doses, lest hæmoptysis should set in.

Without wishing to contradict the assertion of those physicians who succeeded in obtaining definite advantages from eucalyptus in tubercular affections, we must express our astonishment that, provided the drug did possess the alleged capacity, such effects should have been wholly unknown in this country. At all events, it appears advisable to exhibit the various preparations of eucalyptus in the manifold affections in which its reputation is either firmly established or merely alleged. It will do no harm in either case, and might be conducive to valuable results in both.

The value of eucalyptus in the various catarrhal affections of the urino-genital apparatus is likewise great.—*Therapeutic Gazette.*

THE BIOLOGICAL EXAMINATION OF WATER.

The *Lancet* of September 26th comments with enthusiasm upon a scheme for testing the sanitary fitness of water, recently developed through the labors of Dr. Koch, in the *Reichs Gesundheits Amt.*, Berlin. The method seems to have met with high favor in England, the eminent Dr. Percy Frankland having adopted it in his recent study of filtering and precipitating agents, where he has successfully put it to the test. A complete account of the process, by Professor Warden, of the Calcutta Medical College, has been published in the *Chemical News* and reprinted in pamphlet form for further distribution :

'The system consists essentially in mixing a known volume of water with 'sterilized liquid meat peptone gelatin,' counting, after a definite period, the colonies of micro-organisms which develop, observing the extent to which they liquefy the gelatin, and, if necessary, cultivating them in various ways. The utmost possible care is of course necessary in these operations, and special apparatus is required. The paper gives full directions and illustrative drawings, and the importance of the system is well illustrated by Prof. Warden, when he reminds us that a drop of a cholera stool added to a liter of pure sterilized water could not be detected by chemical analysis, whereas the bacteriologi calexamination would 'with absolute certainty demonstrate the presence of a comma-shaped micro-organism, while subsequent cultivation would indicate whether the organism was the cholera bacillus or not.'"

This is certainly *pari passu* with modern doctrines regarding the etiology of contagious and infectious diseases, and as means for the sharp differentiation of the various species of pathogenic microbes become known, the testing of the sanitary purity of water by the biological method will advance in scientific value and popularity. It can be undertaken, however, only by the expert micro-biologist who can bring to bear upon his suspected specimens and final cultures every check against accidental contamination ; who, at the end of the process, can read his results with a practiced eye and estimate the pathological significance of the crop by experience gained through hard labor in many a similar harvest-field.

Indeed, it is doubtful, in the present darkness under which lies the question of the nature of the *materies morbi* of diseases known to be transmissible through drinking-water, if even the most expert micro-biologist could do more than say that a given specimen of water is prolific of microbes, some of which may be inimical to health. The bacillus of cholera may perhaps be excepted, but, if so, it only proves the rule.

Now the chemist, inaccurate and unsatisfactory as he knows to be all methods within his reach for the sanitary testing of water, can give an answer quite as satisfactory as this ; for, after making all due allowances for leaks in apparatus and inaccuracies in measuring, and discounting his personal equation in estimating by depth of color the amount of albuminoid ammonia down to the third decimal point in fractions of one part per million of the suspected specimen, he can at least say that the water is dirty or clean within or beyond the limit of safety to the drinker. And this testimony, when taken with a view to the surroundings of the water-supply and prevailing zymotic diseases, is of large sanitary significance, resulting under authority in the sealing up of the sources of many an endemic. But since the work of the chemist upon this point is difficult, harassing and out of accord with the usual accurate revelations of his methods, there is little doubt that he will be most happy to turn over to his brother scientist his stock and interest in the testing of water for sanitary purposes.—*Louisville Medical News.*

Dr. Thomas J. Moore, formerly of North Carolina, and for several years a member of the Medical Society of this State, has been honored with an election to the membership of the Virginia Board of Medical Examiners. Dr. Moore has been for several years a resident of Richmond.

THE ACTION OF DIURETICS.

At the recent annual meeting of the British Medical Association (*British Med. Journal*, August 22, 1885) in Cardiff, D. E. Long Fox opened the discussion in the section of pharmacology and therapeutics on the action of diuretics with a concise account of the physiology of the kidney, and called attention to the ways in which these physiological points may be practically employed in the administration of diuretics.

As a consequence of the fact that increase of general arterial pressure increases the secretion of the kidney, a large amount of water is one of the best diuretics. A similar effect is induced by augmenting the force and frequency of the cardiac beat by ammonia, iron, digitalis, strychnine, squill, alcohol in moderate doses, ether, belladonna, convallaria majalis and broom; whilst chloroform, aconite, opium Calabar bean, quinine, camphor and veratrine may stimulate the heart in small doses, and depress it in larger ones. In many individuals, however, remedies of this class act as cardiac depressants from the first.

Among the excitants of arterial tension, and so secondarily of diuresis, are the bromides, ergot, belladonna, nitrate of potassium, digitalis, squill, nux vomica, and cold to the surface of the body.

If the general arterial pressure remain the same, and diuresis be effected by dilatation of the renal arteries, the vaso-motors of the kidney are either under the influence of some depressing emotion, or the vaso-constrictors of these arteries are rendered paretic by a class of remedies that may be called " local depressants of the renal nerves.' Among these, Dr. Mitchell Bruce enumerates digitalis and squill in the second stage, spirit of nitrous ether, all volatile oils and resins, such as turpentine, etc., juniper, copaiba, hop, savin, cantharides, camphor, alcohol, belladonna, aconite, the nitrates and nitrites. Of these, alcohol and belladonna only act as nerve-depressants after long-continued use, or in large doses.

When suppression of urine occurs in the course of an acute exanthem, such as small-pox, scarlet fever, or typhus, or in septicæmia, the cause is a twofold one: first, a loss of general arterial tone; and secondly, a paretic dilatation of the renal vessels. Both these phenomena may be induced by the paralytic influence of the specific poison on the medulla oblongata. The renal symptoms are seldom amenable to ordinary diuretics. Ergot and strychnine are sometimes useful.

The function of the cells of the convoluted tubes is mainly the excretion of solids. The condition of arterial blood-pressure has, therefore, only a very indirect influence on the action of this portion of the kidney. Still, the excretion of water is double, namely, first, from the glomeruli; and secondly, from the venus plexus round the tubules, along with the urea; and this venous plexus is indirectly influenced by blood-pressure, as it has a direct communication with the renal arteries.

The amount of fluid, however, that is brought to the convoluted tubes has some effect on the amount of solids excreted. The taking fluids in large quantities acts. on this portion of the kidney, not so much by way of augmenting the blood-pressure, as by exciting the cells of these tubules to active work, and enabling them to separate the solids from the blood.

This effect is also induced by saline diuretics. These may, *per se*, stimulate the renal cells; but they act much more by taking up watery fluids, carrying them to the kidney, and so, by flooding the tubes through the tube-walls, exciting the cells to the secretion of solids. It has been proved by experiment that secretion may go on by means of the tubules, by injecting the specific potential constituents of the urine, even when the vascular tufts are excluded. Speaking roughly, however, diuretics that stimulate the renal cells do so by increasing their active power for the separation of effete material brought to them in that condition by the blood.

The salines that influence the activity of the renal cells, and bring with them some of the watery elements of the venous plexus round the tubules, vary in power. Salts of lithium and potassium act better than those of sodium and ammonium; sodium salts better than those of ammonium. Lithium salts combine with a much larger relative proportion of uric acid than the salts of potassium or sodium. Probably all the potassium salts stimulate the renal cells effectually; but the acetate, citrate, nitrate and tartrate are the best for this purpose.

Many of the substances already mentioned—juniper, copaiba, turpentine, cantharides, the resins, etc.—act not only as local nerve-depressants, but as direct stimulants to the renal cells. Dr. Bruce's list is a long one, and includes juniper, copaiba, oleum terebinthinæ, savin, piper, cubebs, the salicylates, caffeine, uva ursi, pareira, buchu, arnica, aconitum, scoparium, guaiacum, camboge, cantharis, the volatile oils, the oleoresins, the resins and balsams, jaborandi, lobelia, dulcamara and alcohol. Of these agents, some stimulate the renal cells without increasing the amount of water, and others do both. The difference depends on whether the drug dilates the renal vessels whilst stimulating the renal cells. Juniper does this, and copaiba to a less degree; and thus diuresis is markedly increased. Many other substances, that stimulate the cells to a greater excretion of solids, may induce no diuresis, and, indeed, may have an opposite effect.

Thus, therefore, combination of diuretic remedies is useful. Dr. Lauder Brunton remarks that digitalis by itself might arrest renal circulation and secretion, and that it should be combined with some drug that dilates the renal vessels, like the nitrite of sodium, whilst the blood-pressure remains high. But, in most cases, the union of remedies that cause a full flow from the glomeruli with those that excite the activity of the renal cells, leads to a more complete depuration of the blood; and herein, again, we may give honor to our predecessors, in that they discovered by observation what we now are able to explain physiologically.—*Therapeutic Gazette.*

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TREATMENT OF GOUT.—In the treatment of an acute attack of gout, Dr. J. Mortimer Granville recommends: First, the free use of chloride of ammonium, with chlorate of potash in dilute solution, as an efficient diuretic, which operates without increasing, but on the contrary relieving, any irritation or congestion of the kidney which has occurred. Second, the employment of iodine in the form of the tincture, with glycerine and water in large quantity. The mixture, disagreeable as it is, affords so much relief from pain after each dose that the patient will generally be anxious to repeat it, and opium or any other anodyne may usually be dispensed with. After the more urgent symptoms are relieved, a grain of quinine should be added to each dose of the iodine mixture. On the other hand, if this mode of treatment should fail from any cause, Dr. Granville advises us to fall back on colchicum, administering the wine of the root in half drachm doses, with a saline or alkaline carbonate.—*American Journal Medical Sciences.*

REVIEWS AND BOOK NOTICES.

A Practical Treatise on the Diseases of Children. By Alfred Vogel, M.D. Translated and Edited by H. Raphael, M.D. Third American Edition. Illustrated by six Lithographic Plates. Pp. 640. New York: D. Appleton & Co., 1, 3 & 5 Bond Street, 1885. [Price $4.50, cloth.]

Medical literature has recently been enriched by excellent works on the diseases of children, so that the field may be said now to be fully occupied. The appearance of the third American edition of *Vogel's Diseases of Children* is not superfluous, as any student may determine by carefully perusing the volume we have under consideration. It is not a new work to Americans by a great deal, but cannot be said to have taken the same hold upon them as the rival treatises from American and English sources. This edition, which is a reproduction of the eighth German edition, with notes by the translator and the addition of an article on cerebro-spinal meningitis, gives us essentially a new volume, in which the arrangement of subjects is well ordered.

The introduction is of special value, treating of the anatomo-pathological observations of the infantile organism—respiration and circulation, secretion, growth—general rules for the examination of children, and the nursing and care of children. Under the last head the reader will turn to the subject of artificial feeding, to find a very thorough statement of our present knowledge of the comparative relation of woman's and cow's milk—a subject the proper understanding of which is the basis of our knowledge of feeding. The author asserts that "the milk of a good wet-nurse should contain from 3 to 3.5 per cent. of casein," and that "the essential difference between woman's milk and cow's milk does not consist in the differences of the quantities of milk-sugar and of the butter, but in this: *that the casein of cow's milk, when it turn's sour, curdles into large lumps, and even into a solid gelatinous mass; whereas the casein of woman's milk always coagulates into small lumps and loose flakes.* The latest authority we have upon the chemical constitution of human milk (Dr. Arthur V. Meigs) states that the amount of casein to be found in human milk is from 2 to 2½ per cent.

The doctrine as to the time and manner of weaning an infant is clearly set forth, and the author considers that "it is useless, and, for most mothers injurious, to suckle their children beyond the first year." He then gives a remarkable instance of self-weaning which will not fail to provoke a smile: "I once treated an American lady, who still suckled her son, who was *two and a half years old*, till one morning, when the strongly-developed, robust child was called to be nursed, he very kindly replied: 'I thank you, dear mamma, the nursing is too tedious for me.'"

Trismus neonatorum, according to his experience, and that of the most extensively employed children's physicians, "invariably leads to death." He suggests tincture of opium and chloroform, but thinks the most rational treatment is "not to allow the child to perish by inanition." The editor ventures to suggest the employment of chloral hydrate, but seems not to be aware that *several* (an indefinite statement—but four have come under the writer's knowledge) cases have been successfully treated by means of chloral hydrate alone and combined with bromide of potassium.

The treatment of prolapsus of the rectum, while it contains nothing very new, is full of good suggestions. He says: "Experienced nurses know the value of holding children [afflicted with prolapse], suspended in the air during defecation, and at the same time of compressing and supporting the anal orifice as a means of preventing the prolapse of the bowel." Recently a very ingenious device has been designed by Mr. Chamberlain, or Tarborough, consisting of a water-closet seat, which is so constructed that the bowel is supported during defecation. The practical results are very gratifying. Some of the surgical diseases and deformities requiring surgical operations are given and others are omitted. Hare-lip is treated of as an obstacle to nursing, etc., and then full instructions are given for the surgical remedy of the deformity.

We note that some of the prescriptions given are obscure, owing to the employment of names not in use in our pharmacopœia, and some are abbreviated beyond certain recognition.

Pulverized sem. cinæ and cinæ seed are used in the place of the generic term santonica—a little confusing to some readers, and *op. pur.* stands as an abbreviation for *opii puræ.*

There is a very large amount of good teaching in this volume, which can be found nowhere without we might except Rilliet & Barthez's *Maladies des Enfans*, and so the owner of the other excellent treatises we have from time to time reviewed in these pages can, by the addition of this volume, have a very complete library of the diseases of children. The translator's notes are very serviceable, adding enough material from American experience to adapt the text to American practitioners. In the present shape Vogel on Children is destined to attain a larger circulation than ever before, notwithstanding its able rivals.

MILK ANALYSIS AND INFANT FEEDING. A Practical Examination of Human and Cow's Milk, Cream, Condensed Milk, etc., and Directions as to the Diet of Young Infants. By ARTHUR V. MEIGS, M.D. Philadelphia: P. Blakiston, Son & Co. [Price $1.00.]

Our readers have probably become interested in the analyses performed by Dr. Meigs, an abstract of which we gave them in the JOURNAL. He has pursued his investigations so zealously that we must confess ourselves to having become convinced that the casein of human milk has been greatly overstated by most of the chemists accepted as authority. The practical bearing of this old error was to regard cow's milk as so little different from human milk that it could be used as a substitute for it without much preparation, and consequently infants were fed with a milk with far more casein than could be digested, and casein that was by far more compact and impenetrable by the fluids of the stomach, even in the same quantities. The author puts the casein in human milk in one place at 1.046 per cent. (p. 40), instead of 4 per cent., although the author admits (p. 65) 2 to 2½ per cent., but "many further analyses are necessary to establish absolutely this point."

He recommends as a substitute for mother's milk 2 tablespoonsful cream, one of milk (ordinary milk—not Jersey), two of lime-water, and three of a solution of sugar of milk in the proportion of 17¾ drachms of sugar of milk to a pint of water. As soon as the mixture has been warmed it may be poured into the bottle and the food is ready for use.

Dr. Meigs cannot recommend condensed milk. He could not doubt, if he were to see how much more safely it can be managed than cow's milk in families where ignorance of all the principles of infant feeding abounds. Condensed milk (the Eagle Brand) has the advantage of keeping well in hot weather—deteriorating very slowly, even after it has been opened—is partially cooked, is sweetened with milk sugar, and can be made to approximate human milk with less chance of error than cow's milk taken at hap-hazard from this and the other dairyman. It is a great blessing to poor families where artificial feeding must be resorted to, and thousands of rosy-cheek babies in this country testify to its value.

There is food for thought in this little volume, and it can be read with advantage by the chemist and practitioner.

THE SCIENCE AND ART OF MIDWIFERY. By WILLIAM THOMPSON LUSK, A.M., M.D. New Edition. Revised and Enlarged. With Numerous Illustrations. New York: D. Appleton & Co., 1885. Pp. 763. [Price (cloth) $5.00.]

The first edition of Lusk's midwifery was issued in 1882, and we believe we risk very little in saying that in the short time it has been before the public no American work in any department of medicine has attained such a degree of popularity, and none are better, and very few as well, known to the rising generation of doctors. We do not wish to convey the idea that the work is popular in the sense that other works are popular, because of learning made easy, but because the science and art of midwifery are taught in a thorough, and at the same time attractive, method. The size of the present volume is notably increased, and some of the cuts of the first edition supplanted by very superior ones.

The author says "the activity that has prevailed in the study of obstetric phenomena, and in the perfecting of obstetric practice in the short space that has intervened since its first appearance, has necessitated many changes in the text, and has led to the nearly complete rewriting of entire subjects. Many statements which three years ago were advanced with diffidence as theoretically probable, have recently been shown to be capable of scientific demonstration, whereas a few, with more modern light, have been omitted in the process of revision." It is with special gratification that he draws attention to the triumph of the modern doctrines concerning the nature of puerperal fever, and to the wonderful results that have proceeded from the application of Mr. Lister's teachings to the hygiene of lying-in hospitals. "The latter have ceased," he says, "to be pest-houses, and it is now a question whether forlorn women, confined in properly conducted maternities, are not actually safer in child-bed than the fortunate classes in their own homes."

All that part of the work relating to the hygienics of the lying-in chamber and the antiseptic management of labor has been rewritten. Proper stress is laid upon the necessity of regarding puerperal fever in the light of a preventable disease, and the injunctions laid down are fully up to the requirements of our increasing knowledge.

We note one singular blunder on page 694, where a formula is given for suppositories, concluding with the direction "Ft. bacilli No. iij.," and further on says the "*iodoform bacillus* should be seized by a pair of polypus forceps and pushed into the cervical canal."

The index is thorough, the typography is of the best, the illustrations are clearly cut, and consist of selections from the works of acknowledged masters in obstetrics, and, in short, the volume has been produced in the very best manner by the publishers, and at a price which places it within the reach of all.

A SYSTEM OF PRACTICAL MEDICINE BY AMERICAN AUTHORS. Edited by WM. PEPPER, M.D., LL.D., assisted by LOUIS STARR, M.D. Vol. III. Diseases of the Respiratory, Circulatory and Hæmatopaietic Systems. Philadelphia: Lea Brothers & Co., 1885.

The value of this great work develops more and more as it progresses. Having reached the third volume, its proportions can now be fairly estimated. While all the articles contributed are not equally meritorious, none of the work falls below a good standard, and most of it is the best known to American medicine. In this volume we find contributions, among others, from Drs. Carl Seiler, Harrison Allen, Abraham Jacobi, W. H. Geddings, Samuel C. Chew, William Carson, Alfred L. Loomis, William Pepper, Austin Flint, Frank Donaldson and William Osler—names which alone give assurance of the value of the articles.

The reader will turn with increased interest to the article on Pulmonary Phthisis, from the pen of Dr. Austin Flint, for there is not in all the range of disease one that is so important to the whole human family. Dr. Flint discusses all the modern theories of contagion, of a specific contagium vivum, and succeeds in picturing the pathological and clinical aspects of phthisis in a way that it will repay everyone to study carefully.

In regard to marriage of phthisical couples Dr. Flint says:

"Medical opinion is sometimes asked concerning the propriety of marriage with a phthisical man or woman. As an abstract question there need be no hesitation as to the answer. If men went about deliberately selecting wives, or *vice versa*—as, for example, horses are selected—there could be no doubt that phthisis should be considered a disqualification. Husbands and wives, however, are not mated in such a way. A marriage engagement has been entered into, and afterward one of the parties becomes phthisical. The friends of the non-phthisical party, not the parties themselves, come for advice, and the adviser is sometimes placed in an awkward situation. With respect to the effect of marriage on the tuberculosus party, my analysis of 17 cases, 2 only being women, did not show that it was unfavorable. Were it unfavorable, considerations of sentiment and sense of duty generally outweigh all others. A more important point relates to offspring. A hereditary tendency is entailed in some, but not in all cases. The risk incurred in this point of view having been fairly stated, the responsibility of the medical adviser is ended."

We have little to add to our favorable opinion of former volumes of this "System." It will assuredly be the standard reference book on the practice of medicine for American physicians for years to come, and no library can afford to be without it. It is a subscription work, and orders must be sent for the entire set of five volumes.

NC Med J. (O.S.) 16: 291-292, #5, Nov 1885

A Doctor's Experiences in Three Continents. By Edward Warren, M.D., C.M., LL.D.

The career of Dr. Warren has been a most eventful one, and he is correct in supposing that a narration of it would prove interesting to the reading public, even those who did not know him personally. The book is made up of a series of letters written to Dr. John Morris, of Baltimore, and is really an autobiography.

The incidents narrated are very readable, and serve to recall to many of those now living, and, perhaps, actors in the same, very eventful things in North Carolina and in the Confederacy.

We cannot vouch for the accuracy of some of the historical matter, his account, especially, of the surrender of Raleigh, having already had a version very different from the one here given.

Dr. Warren held high offices in North Carolina, and at a very early age was recognized as a very accomplished physician. He was chosen as the first editor of the (old series) of this JOURNAL when it was published under the auspices of the State Medical Society, resigning his position to assume his duties as Professor of Materia Medica and Therapeutics in the University of Maryland.

The book is never prosy, and covers a career in America, Africa and Europe—so full of stirring incident—and will be read with pleasure, especially that part referring to the war in the Southern States.

Those of our readers who want a very entertaining book out of the old beaten paths of standard fiction, will find in "A Doctor's Experiences in Three Continents" most agreeable diversion.

THE USE OF THE MICROSCOPE IN CLINICAL AND PATHOLOGICAL EXAMINATIONS. By DR. CARL FRIEDLANDER. Second Edition. Enlarged and Improved. Translated by HENRY C. COE, M.D., M.R.C.S. New York: D. Appleton & Co., 1, 3 & 5 Bond St., 1885. Pp. 195.

This work is intended as a guide to students in the pursuit of clinical and pathological studies. The aim of the author has been to give a concise statement of the processes employed in pathological histology.

The choice of a microscope, its accessories, the reägents used in microscopy, micro-chemistry and modes of preparing specimens occupy over 100 pages.

Directions for the observation of the circulation in frog's web, tongue, mesentery and the cornea are concisely given, and the book closes with directions for examination of the living and pathological fluids of the body, and the solid elements, such as extirpated tumors. The schizomycetes are described under the head of fluids, and a frontispiece colored plate is introduced to exhibit a comparison between the microscopic appearances of the most interesting specimens reputed to have pathological significance.

The work is a concise and handy volume, which beginners will do well to procure.

EPITOME OF DISEASES OF THE SKIN. By LOUIS A. DUHRING, M.D. Reported by HENRY WILE, M.D. Philadelphia: J. B. Lippincott & Co., 1885. [Price 60 cents.]

Some of the lectures contained in this little book have appeared in the JOURNAL, and our readers have already had an opportunity to peruse them. They cover the whole ground of dermatology, and the matter is stated in a simple, concise and practical manner. Dr. Duhring desires it to be considered an epitome of dermatology, and as such it is an admirable introduction for the student into the more complete works.

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DOES MEDICINE PAY?—Ask your country doctor, who has not read a book in two years, and who cannot conscientiously swear that, of his own knowledge, his faithful beast of burden that carries his charlatan weight to his patient and helpless patients, year after year, has had ten ears of corn since he bought him of a drover and paid for him with a thirty-day draft drawn on a commission merchant who has a mortgage on his home place. Ask him. He will tell you that it does not. It is hard for him to make collections, and seven other devilish reasons prevent. The truth is, he does his work carelessly, he is dilatory in going to see a patient, and more so in leaving him. He never presents a bill and presses it properly and honestly to payment, but dilly-dallies until the debt spoils with age. Bills are like babies—they have to be looked after, and can walk at twelve months. Ask your active doctor, who rides a good horse, comes when he is sent for, goes when he is through—who sits in the saddle, and not in the shady-side of the front porch of the country store—ask him—but you need not—you can see that it does. The man is healthy; his family is well clad; his children are up head and leading at the district school.—*Raleigh Register.*

INGROWING TOE-NAILS may be managed by applying a mixture of French pine resin [try the N. C. window-glass rosin] and carbolic acid. A single drop is applied to the painful spot, and after two or three applications the toe-nail may be raised without pain.—*Md. Med. Jour., Therap. Gaz., Am. Jour. Phar.*

CURRENT LITERATURE.

ANTIPYRIN:

Abstract of current opinion and experiences with it as a therapeutic agent.

Antipyrin is a synthetically prepared alkaloid. The commercial drug is dimethylchinicine. It is a white powder, very readily soluble in water; taste sweetish-bitter and rather pleasant. Its solutions give with ferric chloride a deep red, and with nitrous acid a greenish-blue. Dose: Thirty grains hourly for three hours. For children a grain and a half for every year of the child's age may be given hourly for three hours. If it causes vomiting it may be dissolved in half its weight of hot water and injected subcutaneously.

Action.—It reduces the temperature for several (1–20) hours, when given as above, in two or three doses, and when its effect has passed off the rise of temperature which then occurs is less frequently accompanied by rigor than is the case with *kairin.* It causes profuse perspiration. It slightly increases the blood-pressure. It has no action on the respiration. It is excreted in the urine. It sometimes, though rarely, causes vomiting, and very seldom causes collapse. It is used in febrile diseases generally. It seems specially useful in typhoid fever and phthisis, but is also useful in erysipelas, surgical fever, pleurisy and pneumonia. (BRUNTON's Pharmacology and Therapeutics, p. 695.)

Dr. Huchard terminates a lecture on the therapeutics of the new antipyretic antipyrin, which he delivered at the Hôpital Bichat, with these conclusions:

"1. Antipyrin constitutes a powerful and certain means of lowering the temperature in almost all febrile diseases, as typhoid fever, pulmonary phthisis, pneumonia, pleurisy, acute articular rheumatism and cerebral rheumatism, angio-cholitis, erysipelas, diphtheria, puerperal fever, scarlatina, phlegmon, abscess, etc. It mitigates the symptoms which are due to the pyrexia, acceleration of the pulse and respiration, dryness of the mouth, etc., but it does not seem to possess any *direct* action on the respiration and circulation.

"2. It is an antipyretic but not an antiperiodic, whence its inefficacy in intermittent fevers as a *preventive* of the paroxysms.

"3. Its administration only gives rise to slight and occasional complications, such as moderate sweating, pharyngeal constriction, slight nausea or vomiting, and in some relatively rare cases to a rubeoliform or scarlatiniform eruption. No tendency to collapse is produced, nor any intoxication such as is caused by preparations of cinchona and salicylic acid.

"Numerous observations have demonstrated that it constitutes a powerful, and up to the present time the sole, means of efficaciously lowering the temperature in tuberculous subjects. After a dose of two grammes, administered especially in the evening at the time of the recurrence of fever, the temperature falls half a degree Centigrade, by the end of half an hour, and sometimes after a quarter of an hour. It then diminishes progressively, until the normal temperature is attained in an hour and a half or two hours. It is, however, sometimes necessary to prescribe an hour or two later another dose of one or two grammes; but in phthisical subjects it, in consequence of the very certainty of its actions, and with the aim of avoiding accidents that may be induced by hypothermia should only be administered in small and increasing doses, as from two to four grains.

"5. The antithermic effect is ordinarily maintained in these patients for from six to nine hours, and is sometimes perceptible on the following day, during which the temperature does not regain its previous height. The subsequent rise of temperature takes place progressively, resembling in that the course of defervescence. It is never sudden, as with kairin, and is never accompanied, like the latter substance, with more or less prolonged shivering.

"6. It is eliminated in the urine, in which its presence is recognized two to four hours after its administration, during a period of from 30 to 48 hours. Some drops of perchloride of iron poured into urine of patients taking this medicine immediately produces a highly characteristic red color.

"7. Dr. Huchard cannot speak from his own experience as to its effect in typhoid fever; but he is disposed to regard the doses of from six to eight grammes per diem, recommended by various observers, as excessive, as in several of the cases in which they had been employed a condition of hypothermia has been induced, the temperature falling to 35° or 36° C. In typhoid fever, also, the temperature, after having been lowered, will about the fifth or sixth day rise again a degree Centigrade for about an hour, after which time it resumes its regularly descending progress. Dr. Huchard has also noted the same temporary ascent of the temperature during the apyrexia, due to action of antipyrin on the fever of phthisis."—*Huchard in Union Médicale Nov.* 29, 1884.

In the *Prager Medicinische Wochenschrift* for October 1, 15 and 22, 1884, Prof. Pribram publishes the results of his studies with this new antipyretic. Chemically it is described as *dimethyl chinicin*, and is a yellowish powder extremely soluble in water or alcohol, and, therefore, well adapted for subcutaneous injection; with a bitter taste very much less marked and less disagreeable than that of quinine, of which it is a derivative. Antipyrin has been used with success as an antipyretic by Pribram in typhoid fever, pneumonia, erysipelas, tuberculosis, acute rheumatism, and various other acute febrile diseases in doses of from 10 to 30 grains, administered in powder or in watery solution. As a rule, not more than 60 grains should be given during one day, although in typhoid fever much larger doses may be given with impunity. The only unfavorable result which he mentions, as a consequence of the use of this drug, is occasional vomiting. His conclusions are as follows:

"1. Antipyrin is an invaluable means of reducing the temperature in fever and its concomitant symptoms (rapid pulse and respiration, dryness of the tongue and delirium).

"2. These favorable results are produced in cases in which quinine has either failed, or in which it is only active in very large doses.

"3. It further possesses an advantage over quinine in its great solubility.

"4. It is well suited for administration by the rectum.

"5. It is preferable to the cold water treatment of fevers on account of its ready employment and easy control.

"6. It surpasses kairine in the duration of its effects, and its action is free from the danger of collapse and rigor which often follows the use of kairine.

"7. Antipyrin appears to be of special value in the treatment of typhoid fever, tuberculosis and pneumonia.

"8. In acute rheumatism it appears to be as efficacious as salicylic acid.

"9. Its use in advanced cases of tuberculosis tends to diminish the loss of body weight; it has, however, no effect on the sweats of phthisis.

"10. The only unfavorable results so far noted are occasional vomiting and the production of an exanthematous eruption. Collapse occurred in one case in which it was employed, not, however, distinctly due to this drug. Caution is, however, advisable in cases of cardiac weakness.

"The testimony of numerous other observers (*Schmidt's Jahrbücher*, October 21, 1884, p. 127) is in harmony with these results. In all cases of febrile diseases (pneumonia, scarlatina, typhoid fever, relapsing fever, measles, erysipelas, pleurisy and phthisis) it produced a marked reduction in temperature, which may be prolonged for from 10 to 20 hours; the pulse and respirations are also reduced in frequency, and no abnormal alteration occurs in the urine. After extended trial at the hands of several physicians, the only objection that can be urged against antipyrin is that it occasionally produces vomiting; but this, according to Rank, may be avoided by administering it subcutaneously. So given, its effects are perfectly sure and more rapid, and never cause any general or local disturbance."

Antipyrin sometimes produces a peculiar exanthematous eruption most marked on the chest, the back and the belly; the face and neck are always exempt. It seems to take large doses to produce the effect. The average diameter of the patches is one-half to two-thirds of an inch. The treatment need not be interrupted, as the eruption disappears in spite of the continued use of antipyrin.

Dr. Penzoldt, in *Deutsche Medizinal Zeitung* (*Therapeutic Gazette*), gives the following conclusions respecting the use of antipyrin for children:

"1. Antipyrin must be regarded as a remedy well indicated and appropriate in febrile affections of children.

"2. In proper doses the drug causes a reduction of febrile temperature amounting to several degrees (Reaumur) and lasting several hours.

"3. Reduction of the rate of the pulse does not always correspond with the degree of reduction of the temperature.

"4. The effects on the general feeling are usually favorable.

"5. Occasional vomiting was the only unpleasant symptom ever observed after its use. If vomiting occur persistently, administration by the rectum is to be resorted to.

"6. As regards the dose, as many decigrammes (1½ grains) are to be given hourly for three consecutive hours, as the child counts years; this quantity is to be increased, if it prove insufficient, as will often be the case in small children. An enema may be of a strength of from three to six times as many decigrammes as the child counts years.

"7. The organism, in a prolonged employment of antipyrin, appeared but rarely to become habituated to its use."

Dr. William H. Draper, in a paper read before the New York Academy of Medicine, drew the following conclusions about the effects of antipyrin:

"1. It is an efficient means of reducing temperature.

"2. It is apparently a safe means of reducing temperature if prudently administered and carefully watched.

"3. While it has not, so far as present experience demonstrates, markedly modified the progress or aborted diseases in which it has been administered, it contributes to the comfort of those suffering from high fever.

"4. The unpleasant effects in some cases are more than counterbalanced by its advantages.

"5. Future experience and modifications in methods of administration may so modify its effects that it may prove to be a precious contribution to the art of healing."—*Therapeutic Gazette.*

In the *New York Medical Journal* (May 2, 1885), Dr. G. B. Butler gives the following resumé of his experience in hospital practice with antipyrin:

"1. Antipyrin is a certain, safe and powerful antipyretic in almost all diseases attended by high temperature, but it is not an antiperiodic.

"2. It is especially useful in typhoid fever, pneumonia and phthisis, producing the apyrexia of quinine, salicylic acid and cold baths, without the concomitant unpleasant effects of the latter.

"3. The reduction of temperature occurs rapidly, and persists for an average of twelve hours.

"4. Its dose is double that of quinine: 3 grains for a child under one year of age, 7 grains under five years of age, and 30 grains for an adult form the usual maximum dose. Half the quantity may be given subsequently at intervals of one, two or three hours, according to indications."—*Therapeutic Gazette.*

A few well-authenticated deaths have occurred from the administration of antipyrin, and its effects should be watched very closely until the drug is better known.

We will say for those who have conscientious scruples about it, that antipyrin is patented, although it cannot be considered a secret preparation. Whatever may be the strict construction of the code on this point, we are sure it will not deter any from making trial of a drug which promises so nearly to share the honors with quinine. Its employment certainly must relieve the demand for quinine partially, and materially affect the price of that drug. We acknowledge our indebtedness for most of our information on the subject to the *Therapeautic Gazette*, each number of which comes freighted with the best therapeutic knowledge of all countries, prepared with editorial skill of a superior quality, so as to make it available for the actively-engaged physician.

JALAP.—One of the editors of the *American Agriculturist* (Nov. 1885), presumably Dr. George Thurber, has discovered in his garden a Jalap plant. A drawing is given of the flowering specimen and also the roots. It is a beautiful specimen of the morning glory family (*Convolvulaceæ*), and can be raised in the open air in the South. Dr. Thurber suggests that "it has a remote agricultural interest to the Southern States, as one of the plants affording commercial products, the cultivation of which might prove profitable."

Argemone Mexicana (Prickly poppy, Mexican poppy) is also illustrated in the *American Agriculturist*, and its properties as a medicinal plant slightly alluded to: "The seeds contain an abundance of oil, but instead of being mild and eatable oil, as in the true poppy, it is acrid, and has the properties of castor oil, in very much smaller doses." Argemone is fast becoming troublesome in the streets of seacoast towns as a weed.

OVARIOTOMY IN BATTEY'S INFIRMARY.

We are satisfied that a large number of our readers have no idea of the magnitude of this special work done by Dr. Robert Battey, of Rome, and a detailed description of it will, we are sure, be of interest to them.

While in Rome, some weeks since, we visited this infirmary, which is located on an elevation on South Street, overlooking the Etowah river. It consists of seven neat cottages of five rooms each, with beautiful grounds surrounding them. The place presents quite an attractive appearance. The furniture is plain, but neat. The bedsteads are brass, with woven wire mattresses.

Since January 1st, of this year, Dr. Battey has averaged one ovariotomy each week. These tumors, after being removed, are preserved in arsenic, stuffed and carefully put away. In the collection we noticed twenty of very large size, the largest one weighing, when removed, fifty-six pounds.

The success that has followed the removal of these large tumors has been something wonderful—not one of the cases having died. The doctor attributes this success, in a great measure, to the antiseptic precautions that he observes with every case.

The operation we witnessed was in a patient 32 years old. She had been remarkably stout and healthy up to September, 1884, when she noticed an enlargement of the abdomen. This continued to enlarge rapidly, and very soon she was treated for "dropsy," with drastic purgatives until her general health began to fail, without any diminution of the enlargement. Since December 1st she has not menstruated. She was admitted to the infirmary four days prior to the operation, and the only preparatory treatment given her was a compound cathartic pill, given two days previous to the operation and an enema of warm water given on the morning of the operation. She was not allowed any food the night previous to the operation or the morning of it. It will be seen that at the time of the operation the stomach was empty.

The patient was placed on a short table, with her feet resting in a chair, and was etherized with Squibb's ether by Dr. George R. West, one of the assistants.

The strictest antiseptic precautions were observed throughout.

From the time the patient was etherized and the abdomen exposed, until the operation was completed, a spray of carbolic acid 1 to 40 was kept constantly playing on her from a large steam atomizer.

The incision was made in the median line, with an ordinary scalpel, down to the sheath of the rectus muscle, when the remainder of the tissues down to the peritoneum were divided on a grooved director with scissors. When the peritoneum was reached, all cutting was suspended until the bleeding points had been secured by forceps, after which the peritoneal sac was opened and a trocar thrust into the tumor, when four and a half gallons of fluid almost as black as tar escaped. There were numerous adhesions to the abdominal walls which were broken up with the hand, after which the pedicle was ligated with a stout silk ligature and the tumor removed. It weighed 47 pounds. On account of the adhesions there was considerable oozing of blood into the peritoneal cavity This was arrested by packing the cavity with sponges, after which the cavity was thoroughly washed out with warm water and the wound closed with silk sutures. No drainage tube was used. The dressing consisted of a small piece of old linen spread with carbolic cerate placed over the wound, with a compress of uncarded cotton. Over this was placed an abdominal bandage of flannel, which completed the dressing. The entire operation, from the beginning until the patient was removed from the table, consumed one hour and five minutes.

The after-treatment, as we are informed by Dr. Battey, consists chiefly in doing nothing. He says that the only thing required is an occasional anodyne enema, and a great many do not require that. Dr. Battey is ably assisted in this work by his son, Dr. Henry H. Battey, Dr. George R. West, Mrs. Battey and his two students, Mr. Harry Huzza, of this city, and Mr. Glover. Mrs. Battey has entire charge of the nursing and general management of the patients after the operations, and, in our opinion, it is to her good nursing and kind and gentle treatment, more than to the strict antiseptic precautions, that the great success of the operations is due.—*Atlanta Medical and Surgical Journal.*

CÆSAREAN SECTION.*

By R. O. ENGRAHAM, M.D., Montezuma, Ga.

H. T., aged 38, multipara, was taken in labor July 1, 1882, attended by midwife. After unsuccessful efforts to deliver, I was called on the morning of the 4th. I found the right hand of the child outside the external genitals; arm much bruised from traction. I was informed that the hand came down on the first day of labor.

Attempting to introduce my hand, it was met immediately in front of the os by a large, unyielding globose tumor. Was informed that patient's bowels and bladder had acted two hours previously.

She was considerably exhausted and contractions quite feeble. I attempted to push aside the tumor and return the presenting hand and perform version, but from the tumor impinging I was unable to do so. I decided, if possible, to amputate the arm, eviscerate and use Braun's cephalotribe. I called in consultation Dr. A. A. Watts, who assisted. After the patient was under the influence of an anesthetic (chloroform), Dr. Watts made an unsuccessful attempt to return the protruding hand. After the most thorough efforts to perform craniotomy without being successful, we debated the propriety of excision of the tumor, but after thorough examination as could be made with the arm of the child in the vagina, and the pressure of the super-imposed trunk and head, we decided that our patient would have a better chance for recovery from cæsarean section, in her exhausted condition, than from craniotomy and excision of tumor combined.

She was placed recumbent upon mattress, fully chloroformed; instruments, sponges, etc., were immersed in a two per cent. solution of carbolic acid.

An incision was made one inch below the umbilicus with a pointed bistoury. Index finger of left hand was introduced and guarded the point of the knife.

The incision was continued along the linea alba to within one and a half inches of the pubis, making an opening five and a half inches in length. The peritoneum was then lifted upon a tenaculum; an incision made large enough to admit index finger of left hand, which guarded point of knife. An incision was made corresponding nearly to one made in abdominal parietes.

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*Read by title at the Thirty-sixth Annual Session of the Medical Association of Georgia, April 15, 1885, at Savannah.

At this juncture an elastic cord was slipped around the cervix with uterine sound and single, lightly tied knot was made, which was tightened just at the extraction of child.

Reaching the uterus, an incision five inches long was made along the median line of the anterior walls. The incision was made so as to avoid the integrity of both the cervix and fundus. The child was found with head in left hypogastrium, face looking towards sacrum and right arm in vagina. Placed my right hand under the right armpit by reaching over its back, and grasped the left arm with my left hand and lifted it through the opening just made, delivering by vertex. The child was dead. It weighed eight and a half pounds. The loss of blood amounted to a little more than an ordinary labor.

Placing my hand in the uterine cavity, I explored for the offending tumor; found it in posterior walls of uterus, extending two or two and a half inches towards the fundus, and running down towards external os and jutting down against posterior walls of vagina, an inch below the os and about six and a half inches in circumference, evidently uterine fibroid. At this point of the operation the bedstead gave way, precipitating operator, assistant and all to the floor. Dr. Watts, who was administering the anesthetic, notified me that patient's pulse was growing weak. I turned out clots from uterus, sponged out uterine cavity with weak carbolized water, and no blood having escaped into abdominal cavity, I closed uterine incision with three deep and three superficial carbolized silk sutures. Three of the ligatures were placed one inch apart, passing through the uterine walls. The other three were placed, one alternately between the first and passed externally only half through uterine walls. The peritoneum was closed with four sutures. The abdominal incision was closed with eight carbolized silk sutures, and she was nearly half encircled with broad strips of adhesive plaster. She was cleansed, redressed and placed upon another bed. A dressing was applied upon soft linen of carbolized sweet oil, ʒ 2 to 8 ℥.

In an hour patient fully rallied from anesthetic. Morphia was administered, and in three hours left her resting comfortable.

Operation lasted forty-five minutes.

August 5.—Found patient had spent quiet night; pulse 110, temperature 99, with some abdominal fullness. There being some thirst and slight nausea, ordered water acidulated with citric acid, which gave temporary relief. Left morphia to meet any manifestation of pain. Incision seemed to be doing well. Prescribed quinine in anticipation of surgical fever.

August 6.—Considerable distention about abdomen with tympanitis; tongue coated dirty white, with some pain in left hypogastrium; pulse 115, temperature 99 1-2° F. No motion from bowels. Ordered castor oil and turpentine. Ordered carbolized dressing continued. Gave quinia gr. x, carb. ferri gr. 1. Doveri gr. v, every six hours.

August 7.—Suffering considerable; abdomen greatly distended; vomiting frequently, ejecting a dirty-looking fluid, filled with particles of sand; tongue dirty brown and dry; pulse 120, temperature 100° F. Bowels have not responded to oil; gave enema; in ten minutes enema returns, bringing away teaspoonful of sand and chalky white fluid. In thirty minutes repeated enema, but it returned as given. After many futile attempts with enemata, I oiled my finger and introduced it well up into the rectum. About three inches within the sphincter I was met by a mass pressing against the anterior wall of the rectum, which evidently was the uterine tumor previously encountered. By gentle rotary motion I passed the tumor, and half inch further my finger was met by what seemed to be impacted fæces of the consistency of partially dried glacier's putty, but it was beyond my reach. After various attempts to dislodge it, I introduced my hand (patient being chloroformed) into the rectum.

After introducing my hand cautiously, I was able to raise the uterine tumor, slip my fingers forward, and with much difficulty break up the mass. With my hand still in the rectum, with a Davidson syringe I directed a strong stream of tepid water against the mass. Withdrawing my hand, in a few minutes quite a quantity of the impacted mass came away, consisting in the main of chalky marl and sand, which patient told me she had ate before she was confined, as she remarked that she had an uncontrollable appetite for it.

Of this marl and sand there were gathered from her stools in all two and a half pounds. After she rallied from the anesthetic, administered hypodermic of morphia; prescribed beef, wine and iron, ordered quinia, gr. x, pulv. Doveri, gr. v, every six hours, and continued carbolized oil dressings.

August 8.—Patient comfortable, pulse 100, temperature 99° F., tongue moist, abdominal distention considerably diminished, cheerful, with some desire for food, prescription continued.

August 9.—Patient improving, abdominal distention disappeared, pulse 90, temperature 98 3-5, tongue moist and cleaning off, appetite fair. Ordered treatment continued, except Dovers to be discontinued, and morphia to be given as indication demands.

She continued to improve up to the 13th. Union in the abdominal wound was perfect, except a single suture nearest the umbilical extremity of the incision. At this time I found the pulse 110, temperature 100° F., tongue dry, skin hot and dry. Patient complained of a severe throbbing pain about the reunited part of incision. Parts looked red and swollen. Ordered quinia, gr. xx, Dovers gr. vii, every six hours.

August 14.—Pulse 120, temperature 101, skin hot and dry, restless with great pain of a burning, throbbing character about ununited part of incision. Parts looked red, felt hard, as if circumscribed infiltration had occurred one and a half inches external to left lip of incision, opposite ununited point. Prescription continued. Leadwater and laudanum applied to painful point.

August 15.—Somewhat worse, pulse 125, temperature 102, pain controlled only with anodyne. A well defined circumscribed hard lump one and a quarter inches to left of ununited point of incision. Treatment continued.

August 16.—Condition aggravated, pulse 128, temperature 102½. Introduced my finger through opening left in incision, explored to left, found a fluctuating tumor about the size of a billiard ball, which I punctured with a trocar through the abdominal wall from externally over center of tumor, when a discharge of two and a half ounces of unhealthy-looking pulse escaped. Introduced drainage tube in opening made with trocar. Prescribed quinia, iron and morphia.

August 18.—Much more comfortable, good night's rest, pulse 100, temperature 99½, treatment continued.

August 19.—Improving, pulse 95, temperature 98 3-5, treatment continued.

August 20.—She seems better in every respect, cheerful, says she will be up in a few days, drainage tube removed.

August 21.—Sat up in bed, ate breakfast, one hour later had severe chill, lasting about an hour, fever ensued with pulse 100, temperature 100½, some delirium, prescribed 30 gr. quinine, to be followed with gr. x every six hours, gave brandy cautiously.

August 22.—Mind clear, pulse 95, temperature 99½, quinia and opium.

August 23.—Pulse 110, temperature 101 3-5, with all the indications of sepsis. Prescribed quinia, tincture of iron, opium, brandy. She died on morning of the 24th, with convulsion, on twenty-fourth day after the operation.

I was permitted to examine the abdominal cavity enough to find that union had taken place completely in both the peritoneal and uterine incision with sutures in situ. No escape had taken place into abdominal cavity.

Case 2.—Although I denominate this case second, in reality it is case first, as the operation took place several years prior to the one just reported.

This case I will not take time to go into details, as it was substantially a similar operation, and is reported merely to furnish statistics of the operation.

Mrs. Eugenia R., age 25, primipara, was taken in labor September 18th, 1874. I was called at first signs of approaching labor.

On introducing my finger into vagina, I was quite astonished to find the pelvis fearfully contracted and distorted so badly that it was quite apparent that the head could never pass. Assisted by Drs. Roberts and Stubbs, we performed craniotomy and made every effort to deliver, but our efforts were entirely futile, and we were left no other alternative but hysterotomy, which I proceeded to perform, with their assistance, in the manner just described in previous operation, with no particular accident or variation, except a tendency of intestine to protrude from the opening, which was with difficulty controlled. Also, considerable hemorrhage took place and considerable blood entered the abdominal cavity, necessitating sponging out the cavity at the conclusion of the delivery.

The badly mutilated fetus was lifted by the feet through the opening from the uterine cavity, and the various incisions sutured, as in previously described operation, with all the antiseptic precautions at my command. Carbolized oil dressing and adhesive strips used as heretofore described.

The case made a good recovery, and she was living the last I knew of her, a few years ago.—*Atlanta Medical and Surgical Journal.*

DIATHESES DUE TO CLIMATE.

I will commence first with diatheses in relation to *climate.* Under the term *malaria* we may include all the various emanations from marshy grounds, swamps and jungles. As to its exact nature we know nothing, but that, whilst similar in essential qualities, it varies in different localities, both in intensity and character, seems certain. Its effects upon the human constitution may be to produce quickly very severe disease, but, whether acute or otherwise, attacks of arterial spasm attended by visceral congestions are almost constant phenomena. Its effects, whether exposure be continued or otherwise, are always permanent. The man who has once had ague will display through life peculiar susceptibilities. Under all circumstances likely to cause shivering he will show especial tendency to rigor. He will shiver if a catheter be passed, or if he be exposed to cold, or if inflammation is initiated ; and it becomes a matter of some practical importance to the operating surgeon to remember that rigors occurring to such patients are not so serious in their import as in others. They are retrospective symptoms, and reveal the fact that those to whom they occur have at some former period come under the influence of malaria. One attack of malarial fever by no means prevents another, and although subsequent attacks are usually less severe than the first, yet the effects of the poison are distinctly cumulative, and the limits within which acclimatization can secure immunity are probably much more narrow than has been supposed. It is easy to see that a poison which can be so persistent in its action and of which the effects, even in mild cases, are so well nigh permanent, must be capable of producing that state of body which we name diathesis. The malarial diathesis is, indeed, a well-marked one, and it exists in greater or less degree in all who have ever come under the influence of its cause. It is probably in some degree hereditary, the inheritance being, we may suppose, in ratio with the severity and length of duration of the disease in the parent. Inasmuch as the offspring of those who have suffered are usually born under conditions of continued exposure to its cause, it is difficult in them to discriminate between what is inherited and what is acquired. So great, however, is the combined influence of the two that a fearful state of physical degradation may be thus produced, and in this the inhabitants of a whole district may be involved. Nor is the physical health alone affected; the nervous system is especially involved, and the mental and moral faculties are largely influenced. When we remember how permanent in hereditary transmission such influences become, we can easily understand that the malarial diathesis has, in many instances, had a large share in controlling the destiny of a nation or damaging the character of a race. This diathesis can easily mix itself with any other, and in London practice we encounter it very frequently in association with that of syphilis, and occasionally both with it and that of alcoholism. *Hutchinson on Pedigree of Disease.*

THE CHOICE OF METHODS IN ABDOMINAL DELIVERY.

Gastro-hysterotomy has been improved by the introduction of the uterine suture, and lives have been saved that must otherwise have been lost; but no change in the old operation can compensate for the delay and intermeddling so generally indulged in (where the knife is the only remedy that promises success), to the fatal termination of the case. In an instructive article in the October number of *The American Journal of the Medical Sciences* Dr. R. P. Harris shows that it is in vain to practise this operation in the United States unless it is done in good season. Since January 1, 1875, 29 out of 38 cases have ended fatally, and 21 children were extracted dead, leaving 17, of whom 4 soon perished from causes occurring before delivery, 28 were in labor from one day to two weeks, and 15 of them more than three days.

The Sänger modification with its simplifications has been performed 12 times, saving 6 women and 10 children, of which 5 cases belong to the credit of Dr. Leopold, of Dresden, who saved 4 women and 5 children. Of 8 German cases, 6 recovered. These women were in labor respectively 12 hours, 8, 30, "some hours," and 16 hours, and one not mentioned. The cases marked "favorable" by reason of their condition before the operation all recovered. A tabular record of cases is given by Dr. Harris.

Laparo-elytrotomy also numbers 12 cases, with 6 recoveries, and 7 children saved. Nine of the cases belong to New York City and Brooklyn, where 6 women and 5 children were saved. These 6 women were in labor, respectively, 11 hours, 4 days, 16 hours, a week, 8 hours and 22 hours. There were 4 "*favorable*" cases among the 12, all of which recovered. These two cities have a credit of 11 Cæsarean operations, saving but 2 women and 2 children. In 10 the prognosis was "*unfavorable.*" In cases made more serious by delay, laparo-elytrotomy promises better than gastro-hysterotomy, and should be preferred to it. It also promises more favorably for British cases, as far as we can judge by New York, where the mortality was formerly equal to that of England. A table of the operation is given.

The Porro-Cæsarean operation Dr. Harris shows is *par excellence* the method for hospitals, where the women should be under anticipative treatment and operated upon very early in, or just prior to, labor. The Müller modification is preferable where the placenta is upon the anterior uterine wall, or the fœtus dead and putrid.

Dwarf subjects require that the delivery under the knife should be effected very early, as exhaustion occurs after a short effort of nature, and death is apt to result in such cases. The Porro operation has been the most successful in the cases of dwarfs.

◆

History of a Case of Twice-performed Cæsarean Section, under the late Prof. Wm. Gibson; with an Autopsy of the Patient made Fifty Years after the first Operation.—In the October number of *The American Journal of the Medical Sciences* Drs. Caleb W. Hornor and Robert P. Harris give the history of the famous case of twice-performed Cæsarean section, by the late Prof. Gibson, and an account of the autopsy made fifty years after the first operation. This case is not simply a curiosity of surgical experience. That she twice recovered is not so remarkable, when we consider that five other women in the United States have done the same thing. The danger in these cases is mainly after the first operation, except in those where the mother has fallen into bad health, as occurred in two instances in the United States. A third woman died after a third operation, from the same cause. The lesson to be learned from these recoveries under the first operation, and from others that have been operated upon once only, and with full success, is that it is all-important to give relief to the patient as early as possible.

THE THERAPEUTIC USE OF IODOFORM COLLODION, ESPECIALLY IN NEURALGIAS.

Dr. William Browning, of Brooklyn, in the October number of *The American Journal of the Medical Sciences*, gives his experience with this remedy for external application, together with notes on the preparation itself, and a brief study of its action. The strength usually employed is 1 part of iodoform to 15 of collodion. A half ounce is usually sufficient for any ordinary single application. Dr. Browning has found it most effective when painted on in very thick layers, which may be conveniently done with the usual camel's-hair brush. As soon as one coating becomes a little firm another is applied, and so on until it appears to have an average thickness of ½ mm. In the neuralgic cases a cure, when effected, was usually accomplished with one or two applications.

The class of troubles found most amenable to this treatment was narrowly localized neuralgias, especially when corresponding to some particular nerve and not dependent on any demonstrable lesion. In fact, if a neuralgia, or what is thought to be one, proves intractable to this means, we should doubt its being a purely functional affection, and look carefully for some tangible cause. It has thus a certain diagnostic, as well as a therapeutic, value. Several times its complete or partial failure has led to a more searching and successful examination. Even in such cases much temporary relief is often afforded.

Supraorbital neuralgias, even of malarial origin, particularly if the miasmatic infection dates back some time, seem quite amenable to this treatment. Of course it is not recommended as a substitute for quinine here, but only as an adjuvant where the latter fails or acts too slowly.

◆

Rhamnus barks require age to rid them of disagreeable properties. When two or three years old, they retain only the purgative power. George W. Kennedy says (*Am. Jour. Pharmacy*, October) that the more active properties of Rhamnus reside in the resin, and that by analysis R. Purshiana yielded 6.3 per cent. of R. Catharticus was 4.1-6 per cent. There is a marked difference in the effects of specimens of the fluid extract of Rhamnus Purshiana, and the above hints may give a clue to the difference.

NOTES.

IT is remarkable that elderly persons afflicted with relapsing ague seldom have enlargement of the spleen.

OLD and oxidized oil of turpentine is an antidote for phosphorus, according to Brunton. The American is as good as any. It may be rapidly oxidized by agitating a few ounces with a few drops of nitric acid.

ANTIPYRIN is decomposed by spirits of nitrous ether (Dr. Eccles, *N. Y. Med. Journal*) converting it into green aniline. This change is thought to be not undesirable. The change takes place only after some hour's standing.

A NEW TEST TO DISCOVER THE PRESENCE OF BLOOD IN THE URINE.—About 3 drachms of urine acidulated with a drop of acetic acid, are agitated while cold with 50 minims of chloroform. When allowed to stand the chloroform will rise to the top, and will be colored more or less intensely, according to the quantity of blood present.—*Medical News.*

THE SUPERVISION OF VACCINE STABLES.—The *Medical Record* takes up a suggestion originally made by Dr. Henry A. Martin, to obtain official supervision and inspection of vaccine stables to prevent the improper propagation and issue of vaccine. We do not believe that such inspection and supervision is practicable, and the best that can be done is for each State Board of Health to send its own inspector and determine which establishments are worthy of confidence, and recommend and use their products.

NOTES ON ALKALOIDS OF COCA LEAVES is the title of a valuable paper by A. B. Lyons, M.D., in the October *American Journal of Pharmacy.* Accompanying the article is a colored illustration of the plant (*Erythroxylon Coca, Lam.*), which is from Bentley & Trimen's work on "Medical Plants," but this illustration is rather inferior, and does not show the peculiar linear marking on the leaves, which is of more interest and use to the druggist than the drawing of the flower. The wood-cut illustration of the microscopy of the alkaloid and its salts evaporated from various solutions is very instructive, and the entire paper is of great value.

WANTED—To complete file, copies of the "Transactions of the Medical Society of the State of North Carolina" for the following years: 1849, 1851 (two copies), 1854, 1856, 1868 and 1882. Also "Transactions of the Medical Convention" called to organize the above Society. We will exchange for the above numbers "Materia Medica and Therapeutics: an Introduction to the Rational Treatment of Disease. By J. Mitchell Bruce, M.A., Aberd., M.D."; or "Indigestion, Biliousness and Gout in its Protean Aspects. By J. Milner Fothergill, M.D."; or will pay cash for them. Address Thomas F. Wood, M.D., Wilmington, N. C.

IT TAKES DIRECT FUMES OF PHOSPHORUS TO CAUSE CARIES OF THE JAW.—In men exposed to the fumes of phosphorus, e. g., those employed in the manufacture of lucifer-matches, caries of the lower jaw is a frequent occurrence. This is not due to the action of the phosphorus after absorption into the circulation, but to the direct effect of the fumes upon the bone itself. For it has been found that when a bone of an animal fed by phosphorus was exposed, no carious change took place; but if one were exposed to the fumes, caries was produced, and amongst lucifer-match makers it has been noticed that only those who have carious teeth suffer from necrosis of the jaw.—*Brunton's Therapeutics.*

WE REGRET IT EXCEEDINGLY.—In our issue of September we gave a lengthy abstract of a valuable paper which we found in the *New Orleans Medical and Surgical Journal*, and we were greatly vexed when we discovered (after our attention was called to it by the editors of the *New Orleans Medical and Surgical Journal*) that we had inadvertently omitted to give the source of the paper we abstracted. We desire thus publicly to acknowledge the error, and at the same time to say that we always read with great interest the pages of our esteemed and venerable contemporary, and we do not hesitate to accord that Journal the very highest place in Southern journalism. The article by Dr. Matas was highly esteemed by our readers, and we received several letters of commendation and of enquiry awakened by it.

THE disease known as Pear Blight has been communicated to pear trees by means of bacteria (*Micrococcus amylovorus*). The bacteria were obtained free from the juice of the fruit, and Mr. J.

C. Arthur, who read a paper on this subject before the recent meeting of the *American Association for the Advancement of Science*, says that the bacteria when fully isolated will produce the disease, while the juices in which they live will not. We mention this fact as one important conclusion in bacteriology because of the immense help all such demonstrations will serve in studying the more complex human fluids. Now that the study of mycology has been taken up in earnest by botanists, and enlarged culture experiments will be possible in the laboratories for physiological investigation now in prospect of erection.

MICHIGAN BOARD OF HEALTH AND THE PREVENTION OF SMALL-POX.—The Michigan Board maintained successfully an Inspection Service to prevent the admission of small-pox into that State. In accordance with an order from the United States Treasury Department, approved by the President, establishing a corps of inspectors, under the Marine Hospital Service, the Michigan Board suspended its work. In discharging the inspectors, Dr. Baker, the Secretary, says: "Permit me to thank you for your efficiency. During your service no small-pox has entered Michigan, so far as known; but it has been reported to have been conveyed from Montreal, by person or otherwise, to Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, New York, Pennsylvania, Illinois and Wisconsin. The most exposed of any State, Michigan, has so far escaped." Well done for the Michigan Board of Health! It must be conceded that its organization is more complete, and its execution more thorough, than that of any State having a board of health.

CASES OF SPECIMENS OF MATERIA MEDICA FOR STUDENTS.—Messrs. Parke Davis & Co. have prepared a convenient case containing 388 articles of the vegetable materia medica for the use of medical and pharmacal students. The outfit is sold at the low price of $10, and we commend it to the attention of students, and also suggest it to the Examiner in Materia Medica of the State Board of Examiners as a test in his examinations. The length of the case is 23, width 16, depth 13½ inches. *The Uses of Cocaine.*—Decidedly there is a future for cocaine. It is destined to have a permanent place in medicine, surgery and dentistry. The scope of its uses is not yet defined, but it is safe to say that its applications are widening as experiments with it are extended. We have been especially impressed with this fact in looking over the literature of the subject recently issued by the house of Parke, Davis & Co., Detroit. They have published several most interesting pamphlets. One is entitled "Cocaine in Dental Surgery," another is a working bulletin on the drug containing a variety of original material, and a third a well composed collation of what has been reported about it in home and foreign medical literature. These pamphlets will be sent without charge by the house to any one mentioning the name of this journal, and they are worth reading by all. The same firm has devised a very handy and ingenious "cocaine case," which they sell at a moderate price, and which impresses us as the best of the kind we have seen.—*Philadelphia Medical and Surgical Reporter.*

Hodgson on Paraldehyde as a Hypnotic.—In the *Philadelphia Medical Journal*, July, 1885, p. 99, Mr. G. F. Hodgson contributes his experience after using paraldehyde as a hypnotic in a large number of cases, consuming two quarts of the drug. The author states that the sleep produced by this medicine is calm, closely resembling that of health, with no unpleasant premonitory after-effect, and its action is prompt. It is most appropriate in cases of mania, hypochordriasis, delirium tremens and migraine, as well as in the multifarious minor diseases in which insomnia prevails. Its great advantage over chloral is, that it does not have a depressing influence upon the heart. The insomnia of gout, whether acute or chronic, is most advantageously treated by paraldehyde, as it helps to maintain the excretion of urine well charged with its normal solid constituents. In cases of irritable or inflamed states of the throat or stomach, it cannot be prescribed, on account of its acridity, and, indeed, in any case it must be given well diluted. The following formula is recommended: ℞. Pulv. tragacath comp. Fj ; syrup aurant. ʒ j ; paraldehyd. ʒ i ; spirit chloroform ♏ xv ; aquam ad ℥ iii. In mild cases one such dose at bed-time is sufficient, but in severe cases this must be repeated in an hour or so. By combination with morphia or with bromides, the soporific effects of both medicines seem enhanced.—*London Record, Oct.* 1885.

Antipyrin.—We will add the following from the *London Medical Record*, to the article to be found elsewhere under the above heading in this issue: "In a preliminary note in the *Vratch,* No. 30, 1885, p. 489, Dr. P. A. Walter publishes the outcome on his observations (on several febrile patients at Prof. V. A. Manasseïn's Clinic) undertaken in order to answer the question, "Does, or does not, antipyrin fulfil the conditions which are essential for every really useful antipyretic remedy? that is, does it, or does it not, diminish the process of decomposition of tissues or the production of heat, without any interference with assimilation of the food, and without any harmful action on the heart, brain, etc.?" The patients (with pleuro-pneumonia, bacillar phthisis, typhus fever, pleuritic exudation) experimented upon received for six days only milk, cranberry juice with water, and common water. For the first three days of the observation no antipyrin was given; for the next three days the drug was given in such doses as to constantly keep the temperature at an apyretic level, the purpose being attained by daily doses varying from 45 to 120 grains. The milk and urine were analyzed after Kjeldahl-Bordin's method [whatever that may be]. The results as given by Dr. Walter are these: 1. Antipyrin is an excellent and sure antifebrile remedy, free from any unpleasant accessory action. 2. While lowering the febrile temperature antipyrin also lowers the nitrogenous metamorphosis of tissues, without producing any injurious effects (such as enfeeblement of the cardiac action, action on the brain, etc.). 3. In the majority of cases the assimilation of nitrogenous substances of the food undergoes improvement under the influence of antipyrin. The author notes also that antipyrin sometimes exercises a favorable influence on diarrhœa.

THE PREDISPOSING CAUSES OF ANEURISM.—In a valuable paper, which appears in *The American Journal of the Medical Sciences* for October, Surgeon General Hamilton presents an elaborate study of the predisposing causes of aneurism. As far as his inquiry has extended, the only constant element among all the alleged causes of aneurism is that of climate. Neither syphilis nor alcoholism, nor occupation, nor heat alone, appear to have an appreciable influence on the causation of this disease. How far the influence of diet may extend in the production of aneurism he has been unable to form any conclusion, but it is possible certain kinds of food may have a powerful influence.

DAVIDSON COUNTY BOARD OF HEALTH—REPORT OF THE MEETING OF ORGANIZATION.

Pursuant to notice given, the Board of Health of Davidson county met in the Court House in Lexington at 10 o'clock P. M. on the 2d day of November, 1885, and was called to order by S. S. Jones, Chairman of County Commissioners. Members of the Board present, S. S. Jones, Chairman County Commissioners; S. E. Williams, Mayor; Dr. R. L. Payne, Sr.; Dr. Joe Hill, Dr. J. F. Beall, Dr. R. L. Payne, Jr.

It was moved and carried that Dr. R. L. Payne, Sr., be made temporary chairman of the Board and Dr. J. F. Beall Secretary.

The temporary organization was, on motion, made permanent.

On motion of S. E. Williams, it was decided to elect a Superintendent of Health to act two years from January 1st, 1886, and that the present officer act until that time. Dr. R. L. Payne, Jr., was elected Superintendent of Health.

The Board, on motion, adjourned to meet at the call of the Chairman.

J. F. Beall, Secretary.

NOTICE TO OCULISTS AND PUBLISHERS ON OCULISTIC MATTERS.

Having taken charge of reporting for the *Revue Générale d'Ophthalmologie*, edited by Dr. E. Meyer, of Paris, and Dr. Dor, of Lyon, on the progress of Ophthalmology in our country, I beg leave to request all authors and publishers of ophthalmic works and papers to send me copies or reprints of their respective publications, in order to enable me to give the most complete review of the current ophthalmic literature of our country in a periodical of the largest circulation among our profession.

Medical papers please copy.

Dr. M. Landesberg.

40 W. 34th Street, New York.

LEPROSY A FOURTH STAGE OF SYPHILIS—INOCULATION OF LEPERS WITH SYPHILITIC VIRUS.

Suffice it to say that I fully believe leprosy to be a fourth stage of syphilis, or a form of scrofula subsequent to syphilis, occurring but rarely except in a virgin race, or contracted from a member of such race; and then only in persons of a broken-down or cachectic, nervous constitution, and rarely met with among Anglo-Saxon or Celtic races, except in blondes. On November 14th, 1883, I inoculated six lepers with the virus of syphilis, by taking six ivory vaccine points, and scraping off the surface of a mucous patch on the under side of the lower lip of a native woman. The points were then allowed to dry, and in three hours after I transferred the virus to the arms of six leper girls, under twelve years of age. December 14th, following, I repeated the experiment, taking the virus from a hard chancre on the penis of a Portuguese who came to my office. I saw this same man in March, 1884, three months later, in the office of a brother physician, and found he was suffering severely from secondary syphilis.

The last time I used fourteen points and inoculated fourteen lepers therefrom; but no result followed in any of the twenty experiments. I should like to hear of others trying experiments in this direction, and the results. I understand that there are a number of lepers in the small-pox hospital at San Francisco, upon whom this could be tried. This idea was first suggested to me by Dr. E. Pontoppidan, of Copenhagen, Denmark.—*Extract from an article on Leprosy by George L. Fitch, M.D., in Pacific Medical and Surgical Journal and Lancet.*

The statistics of an eastern inebriate asylum for women show that out of 204 inmates, 128 began by drinking beer, 37 with whiskey, 20 with wine, and 8 with gin. These figures are truly convincing, but had the statistician gone back still further, he would have found that the whole number of the inmates began by drinking milk. The moral is obvious: Great is the value of statistics.—*Medical Age.*

AMERICAN PUBLIC HEALTH ASSOCIATION.

The 13th Annual meeting of the American Public Health Association will meet in Washington, at Willard's Hotel, Dec. 8th to 11th.

The topics for consideration will be:

I. The best form in which the results of Registration of Diseases and Deaths can be given to the Public, in Weekly, Monthly and Annual Reports.

II. The Proper Organization of Health Boards and Local Sanitary Service.

III. Recent Sanitary Experiences in Connection with the Expulsion and Suppression of Epidemic Disease.

The Lomb Prizes will be awarded as follows:

I. Healthy Homes and Foods for the Working Classes. First prize $500; second prize $200.

II. The Sanitary Conditions and Necessities of School Houses and School-Life. First prize $500; second prize $200.

III. Disinfection and Individual Prophylaxis against Infectious Diseases. First prize $500; second prize $200.

IV. The Preventable Causes of Disease, Injury and Death in American Manufactories and Workshops, and the Best Means and Appliances for Preventing and Avoiding them. First prize $500; second prize $200.

These meetings are well attended, and this Association is hardly without exception, the best working scientific body in the country. It would be gratifying to see this meeting well attended by representatives from North Carolina and the South generally.

BOOKS AND PAMPHLETS RECEIVED.

First Annual Report of the New York Cancer Hospital, 1885.

Inflammation of the Iris, with report of cases. By Martin F. Coomes, M.D.

Rationalism in Medical Treatment, or The Restoration of Chemism, the System of the Future. By William Thornton. Boston.

A Memoir of Charles Hilton Fagge, M.D. P. Blakiston, Son & Co. Philadelphia, Pa.

A Description of the Improved Sonometer-Opium Eating. By Martin F. Coomes, M.D.

Alienist and Neuralogist Editorials. By C. H. Hughes, M.D., editor. Abstracted from July number, 1885.

Medical Education. A Paper read before the Philadelphia County Medical Society. By Henry Leffmann, M.D., D.D.S.

A New Bandage for Fixation of the Humerous and Shoulder-Girdle. By Charles W. Dulles, M.D. *Medical News* reprint.

The External Therapeutics of Pulmonary Consumption. By Thos. J. Mayo, M.D. Reprint from the *Medical News* August 22, 1885.

Vaginal Hysterectomy for Cancer. By A. Reeves Jackson, A.M., M.D. Reprint from the *Journal of the American Medical Association*, August 15, 1885.

A Case of Double Narcotic Addiction—Opium and Alcohol. Imbecility. Recovery. By J. B. Mattison, M.D. Brooklyn, N. Y. Reprint from *Canada Lancet.*

The Prevention of Opium Addiction, with Special Reference to the Value of Galvanism for Relief of Neuralgic Pain. By J. B. Mattison, M.D. Brooklyn, N. Y.

Tabular Statistics of One Hundred Cases of Urethral Stricture Treated by Electrolysis, without Relapse. By Robert Newman, M.D. Reprint from *New England Medical Monthly.* Bridgeport, Conn.

A Plea for the Medicinal Use of Pure Alcohol and Alcoholic Mixtures of Known Composition, in Preference to Ordinary Fermented Liquids. By Henry Leffmann, M.D. Reprint from *Polyclinic*, July, 1885.

Duty of the State toward the Medical Profession. An Address delivered before the Medical Alumni Association of the University of Michigan. By Con ad George, M.D. Reprint from the *Physician and Surgeon.*

READING NOTICES.

With a just appreciation of the tendency to general depression in values, and with a laudable desire to place what is a necessity to the outfit of many physicians within the reach of all, the proprietors of Mellier's Standard Elliott Patent Saddle-Bags and Buggy-Cases have made a large reduction in prices of these articles, as can be seen by referring to their advertisement in this Journal.

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Mr. Chamberlain :—Dear Sir :—Your patent Water Closet Seat has been used in my family for several months, and has given entire satisfaction. Yours, respectfully, W. S. Clark.

Tarboro, N. C., December 13, 1884.

——(o)——

Noah, Coffee Co., Tennessee, Aug. 10, 1885.

I had a case of Menorrhagia of long standing, that had tried almost every known remedy at the hands of several good physicians, without receiving more than very temporary relief. Patient aged 40, very delicate, nervous temperament, subject to paroxysms of neuralgia all over, but more particularly of the head, face and lower extremities. Has suffered with menorrhagia for 20 years. I have prescribed for her for the last six years. Ten weeks ago I put her on "Aletris Cordial," three teaspoonfuls per day for the week preceding and the week of the flow, with "Fellows' Syrup," all the time with apperient Pills, as often as necessary, and I am happy to say that the above treatment has given better satisfaction than any or all others ever did, which is largely due to "Aletris Cordial," the others having been used alone before.

Yours truly,

J. E. Childness, M.D.

NORTH CAROLINA
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THOMAS F. WOOD, M. D., Editor.

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SELECTED PAPERS.

MODERN METHODS OF TREATMENT OF PULMONARY PHTHISIS—BEING A CLINICAL LECTURE DELIVERED AT THE BELLEVUE HOSPITAL MEDICAL COLLEGE, OCTOBER 27, 1885.

By Beverley Robinson, M.D., Clinical Professor of Medicine.

Gentlemen:—The subject of my lecture before you to-day is to me a most interesting one. It is especially attractive because I believe by the general adoption among practitioners of medicine of the means to be referred to, a positive and great benefit may be afforded to a vast number of individuals who are now sufferers from an otherwise almost hopeless disease. Let me say to you at the beginning of my remarks, so as to avoid any possible misapprehension, that I am of the opinion at the present time, just as much as ever before, that all usual means of treatment in pulmonary phthisis which have been proved to be practically useful are none the less advantageous because something newer and further can be added. By all means advise your phthisical patients to observe strictly well-determined hygienic rules, to breathe, habitually, if possible, a high, dry, pure, equable atmosphere; give them cod-liver oil, as much as they can properly digest and assimilate;

let all undue mental and physical fatigue be eliminated, if it may be, from their daily existence; locate them in large, sunny, well-ventilated apartments; see to it that their food and drink are nutritious and suitable—in short, do whatever you can to retard the march of disease in the lungs, or to promote and obtain absolute cure. Admitted, then that this plain duty is set before us; admitted that what our classical, text-books teach is sound doctrine and should be unerringly followed, still may we not go beyond their teachings and try new methods which reason encourages and clinical observation and experience obviously support?

The answer is evident. The three methods, then, to which I call your attention, taken in the rank of what I believe to be their relative importance, are:

1. Increased alimentation.
2. Continuous antiseptic inhalations.
3. Intra-pulmonary injections.

One of the symptoms most to be dreaded in the course of pulmonary phthisis is anorexia. When this condition is insurmountable, the patient's future is well-nigh hopeless. Food must be taken so as to preserve life. But at times the repugnance to food is so great among phthisical patients that they turn from it in sheer disgust. No matter how temptingly the dish is prepared, there still remains the inability to swallow it. Now, then, how can the appetite be awakened, especially when its complete absence is already feared at an early stage of pulmonary phthisis? Of course, we may and should first try the different vegetable bitters, combined, or not, with an acid or an alkali; but if these fail, and very often they will, despite our best-directed endeavor, what then shall we do?

Under these circumstances, and in view of what my reading and personal experience show me, I now recommend washing out the stomach by means of a soft-rubber tube connected with a funnel. After a very short period—sometimes within a few days from the time daily washing is begun—the patient will gladly say that his appetite is already much improved. Take another instance—that, for example, of a patient whose appetite is not good, it is true, but who, nevertheless, forces himself to eat, and who, within a few minutes or hours after food is taken voluntarily, vomits it up. How are such patients to be treated? As I have said in regard to my first example, by washing out the stomach daily until stomachal tolerance is, at least, acquired for easily assimilable food. Further, there is a class of cases in which the anorexia is only moderate and the power of digestion for food not completely lost. Of course, it is an effort to eat, and there is certainly no desire for food Besides, soon after food is swallowed the patient suffers from weight or pain in the stomach, acid eructations, or extreme flatulence, which are about equally unpleasant and render the patient unwilling to eat unless forced to do so by his own convictions or the urgent appeals of friends. Manifestly in these instances the patients do not take sufficient food, or do not assimilate it well enough to hold their own, far less to repair the daily damages that are effected by the wasting disease of which they are victims. Here again I counsel daily washing of the stomach. In the beginning I do not advise so-called forced feeding by means of the soft-rubber tube. I believe it is wiser in many instances to wait some days before commencing alimentation in this manner; still there are exceptions. In certain cases, even after repeated washing of the stomach, the patient will be unable to retain food after swallowing it. He may feel that he needs food, and he may be perfectly willing to take it, and yet every time he attempts to swallow even a few mouthfuls, the food is almost immediately rejected by an effort of retching or vomiting.

Singular to say, the mere act of swallowing appears sometimes to occasion the subsequent feeling of nausea and vomiting. If we introduce food into the stomach with the stomach-tube, even in tolerably large quantities, the food is retained. And not only is it retained, but it is digested and assimilated, and the patient soon feels better and stronger. And with the repeated administration of food in this manner the appetite returns by degrees and in a relatively short time, and the stomachal digestion continues daily to improve. After the lapse of several weeks, a month or two, or perhaps longer, daily washings of the stomach are no longer necessary. These may be repeated at longer intervals, finally to be stopped altogether. In regard to the forced feeding it is somewhat different. The rule is to super-aliment if possible—to give the patient more than he can possibly crave or desire, to make him digest and assimilate more food than he would be willing to, or indeed could, swallow. Now, this may be accomplished by pouring into his stomach once, twice, or even three times a day milk; milk and eggs; milk, eggs and beef peptonoids, in smaller or larger quantity. The main indication is, after all, to *stuff* the patient to his or her utmost capacity, short of causing actual distress or incompetence on the part of the digestive organs. It is, again, a remarkable fact that, within an hour or two after the time when a pint or more of milk, two or three eggs, half to an ounce of beef peptonoids have been poured into the stomach of a phthisical patient, he or she will have quite as good appetite as, if not better than, there would have been if no nutriment had been taken. When this forced alimentation, together with the regular daily meals, has been continued for some days, the patient's weight will commence slowly to increase. And, so far as his general condition is concerned, it will be manifestly improved. While this is true, and although flesh and muscular vigor are both obviously on the increase the intra-pulmonary condition will remain absolutely stationary. It may also progress slowly or rapidly. It may, fortunately, become retrogressive and markedly improved. An instance of the former kind was fully reported by me last June at a meeting of the American Laryngological Association, and I do not wish at the present time to repeat this history. I have not been able to bring before you to-day a case of pulmonary phthisis in which washing the stomach and forced alimentation are being carried out, although I have two such cases (in women) under my care *now* at St. Luke's Hospital. In place of *cases of phthisis* being thus treated, and in order to show you the ease and effectiveness of the plan of forced alimentation, allow me to present to you this man. The patient, J. P., is forty years old, single, and a cigar-maker. He has suffered for a long while from asthma, that followed a bronchial attack which occurred during the war of the rebellion. He has had dyspepsia during three years, which has frequently been accompanied by vomiting of very offensive liquids. Occasionally he has felt much depressed, and even ill, from the repetition and severity of these paroxysms. All the food he ate lay like a dead weight on his stomach, or gave him intense pain. His power of digestion seemed completely gone, and he suffered continued misery unless he recurred almost daily to the use of purgative pills. In this case the stomach-tube was first used on October 22, 1885, and the stomach washed out thoroughly with warm water slightly alkalinized by means of borax. After the first washing twenty-two ounces of milk were poured into the stomach and easily retained. The operation of washing and feeding with the tube has been repeated twice since until to day (October 27th), and to the milk two or three eggs have been added. Already the patient affirms, as you hear, that he has now no pain in his stomach after eating, that food does not lie as a load in his epigastrium, and his appetite has improved. Yesterday he ate and digested some meat without difficulty, which is the first experience of this kind he has had during several months.

Now, then, what this man states I have heard repeatedly before, and had several like cases under my care at different times. For your benefit I will now show you how easily my patient swallows his tube, how easily his stomach is washed out, and how acceptable milk received into his stomach through the tube appears to be. A word or two before I leave this subject in regard 1. To the apparatus employed. 2. To the best manner of using it. Simple instruments are often the best, and so it is in this instance. The instrument I show you is, in my opinion, the best one for combined washing and feeding with which I am acquainted. There are several others, invented or modified by different physicians, each one having its special advantage, perhaps, but each somewhat complicated ; at all events, none quite so simple as the one here shown, which to all intents is little more than a long rubber flexible tube with a vulcanite funnel at one end. To be more particular, I would add that the stomach-tube is similar, except for *increased caliber* and *length*, to those made by Tiemann or Ford for catheterization of the urethra. This one is twenty-eight inches long and about one-third of an inch in diameter. It is connected at its proximal extremity by means of two inches of *glass* tubing with a soft rubber tubing of similar size five feet in length. This latter piece of tubing is terminated by a funnel. The stomach-tube may be dipped into warm water before passing it in order to lubricate its surface, or make its passage easier. It is then introduced in the median line beyond the base of the tongue, and the patient is told to swallow. At each repeated effort of deglutition the catheter is pushed farther on until from eighteen to twenty-one inches are introduced. We are then quite sure the tube has penetrated into the stomach beyond the "eyes" by which the food pours into the stomach. So soon as this is accomplished, we raise the funnel to a suitable height—usually the level of the patient's head is sufficient—and pour into it slowly water of about blood-heat, or a little warmer, with the addition of borax. The proportion of the latter may be one drachm to two quarts of water. When we have poured about a pint of fluid into the stomach, or when the patient himself makes *a sign*, or says that his stomach feels distended, we quickly lower the funnel near the floor while *pinching* the soft tube near the funnel with the index-finger and thumb of the right hand so as to retain fluid in the entire length of the tube. So soon as the funnel is lowered into an empty receiving-vessel on the ground, pressure on the tube is relaxed and the water containing the washings from the stomach is siphoned off. After repeated washings, or until the stomach is quite clean and the water comes away clear, we pour in the alimentary substances in the same manner we did the hot water for washing. In withdrawing the stomach-tube we should do it quite rapidly, in order to avoid, possible rejection of the food. We should also pinch the tube near its proximal extremity in withdrawing it, so that none of its contents will fall upon the carpet or floor. Of course it is understood that the daily *washing* of the *stomach* should take place in the early morning, or at a time when it is comparatively or entirely free from food ; otherwise the tube is liable to be choked up by bits of undigested food. Besides, such pieces may be rejected alongside the tube, and possibly become impacted in the larynx or trachea, causing symptoms of asphyxia. Whenever it is inconvenient to perform the washing at a very early hour in the morning, the patient may be allowed some peptonized milk, and the washing may then be delayed for an hour or two. After a certain number of washings the patient himself may be able to accomplish this little feat quite as well as the doctor. As regards the *mere* passage of the tube, he frequently learns how to introduce it with greater ease to himself than the physician can command, and, while introducing the tube, is perfectly able to make a passing intelligible remark or two.

We now come to the second part of our lecture, viz : the subject of *Continuous Antiseptic Inhalations*. This, gentlemen, has been a subject which I have studied very attentively during the past two years. I have examined many different kinds of oro-nasal inhalers, but I know of none so simple, so cheap and so effective as the one I have in my hand. These inhalers were originally made in London and sold by Squire. I imported a large number of them for use at the New York Hospital in the out-patient department, and, within a brief period, finding them so useful, I have requested Mr. Ford, of Caswell, Hazard & Co., to manufacture a lot for sale to the public generally. The inhaler itself is nothing but a simple sheet of light zinc perforated with numerous small holes and bent into a somewhat pyramidal shape of suitable size to cover the nose and mouth. The apex of the pyramid—which is the part of the inhaler farthest separated from the mouth and nares—contains a small sponge, held in place by thread, upon which the inhalant is poured. The inhaler is held fixed before the nose and mouth by two light elastics which go around the ears. I have employed at different times a large number of inhaling fluids and many different combinations. The fluid and combination to which I now give the preference is creasote and alcohol, equal parts, to which I also frequently add a like proportion of spirits of chloroform. This combination is certainly very useful in allaying cough and modifying the quantity and quality of the sputa in pulmonary phthisis. I therefore recommend it very warmly. The alcohol is added to the creasote for the double purpose of diluting it and making it more volatile; the spirits of chloroform are added, in view of the experience of Dr. Cohen, of Philadelphia, to diminish local irritation and excessive cough. The inhaler must not be worn too long at first, nor should too much fluid be poured on the sponge at any single time. In either event, instead of giving relief, disturbance is caused; the throat is rendered more irritable, and the patient complains of increased soreness and tightness in the chest. Properly and judiciously employed, the creasote inhalant relieves symptoms notably, and in the beginning, at least, of pulmonary phthisis is, I believe, a means of decided utility so far as the possible arrest of the disease is concerned. It is important that beechwood creasote be employed. At first the inhaler should be worn ten to fifteen minutes every two or three hours; afterward it may be worn half an hour or an hour at a time, or even longer. When the length of time is gradually increased, only positive benefit will result. From ten to twenty drops of fluid should be added to the sponge at any one time. If more is added it will cause undue irritation. The fluid should not be poured on the sponge more than two or three times in twenty-four hours. Precisely the way in which creasote is most useful is perhaps difficult to state. By its antiseptic action it is possibly destructive of bacilli; by its local action and general effect it is certainly of value in combating catarrhal conditions. Where purulent cavities exist it tends to destroy or neutralize putridity. These are certainly sufficiently good reasons for its use without pursuing the inquiry further. At all events, these inhalations do good. The physician notices it and the patient affirms it. In many instances they allay cough better than any cough-mixture, and they are certainly free from the great objection of destroying appetite, as opium and morphine so frequently do.

We now come to the third and last topic of to-day's lecture, and that is, *The Utility of Intra-pulmonary Injections in Pulmonary Phthisis.* I for one, gentlemen, believe they do good. I also believe they rarely do any harm. They may occasion localized pleuritis, slight hæmoptysis, or cutaneous emphysema—but that is about all. They certainly allay cough, diminish the quantity and change the character of the sputa, and, in some remarkable manner, have at times manifest power in lessening the distressing symptom *dyspnœa.* This method of treating lung-cavities was first employed in this country by Professor Pepper in 1874; since that time, and except by Dr. Pepper himself, I am not aware that anyone but myself has practised these injections any considerable number of times. I have now made between forty and fifty intra-pulmonary injections, and am disposed to continue them in favorable cases. Of course it is often a difficult thing to follow up any particular line of treatment in private or hospital practice, on account of the prejudices or fears of patients. Thus it is with intra-pulmonary injections, and in a similar degree, perhaps, with forced alimentation, already fully described. Whenever this little operation can be performed, it is, in reality, a very simple matter.

The point of a fine cannulated needle should be inserted in the first, second or third intercostal spaces anteriorly, or in the axillary region. While there is no risk in making injections upon or outside of a vertical line passing through the nipple on either side, there is danger in injecting at any measurable distance within this line for fear lest we penetrate the pericardium, or one of the great thoracic vessels. The needle should be inserted from two and a half to three inches. Of course, if considered necessary, the slight pain of the puncture may be annulled by the use of local anæsthesia. I have made use of iodine usually in my injections, and am now employing a solution of the compound tincture of the strength of one part to four parts of distilled water. From ten to twenty minims may be injected upon each occasion, and the injection may be advantageously repeated in four or five days. Previous to the introduction of the needle of the Pravaz syringe the patient fully expands his lungs, and retains the air in them during the few moments it takes to make the injection. Slight or moderate cough, some expectoration, streaked or not with blood, may follow the injection, and for a day or two there may be slight localized pain in the region where the injection was made. Further than these symptoms, little or no reaction accompanies or follows the injections. In many cases, as in that of the man whose chest I have just injected for the *third* time within ten days, there is no reaction whatsoever at the time of the injection, inasmuch as he does not even cough. I have told you this patient has a cavity at the right apex.

One of the gentlemen wishes to know how I am assured that the point of my needle has penetrated the cavity. The answer is very simple ; by giving a slight movement in different directions to the body of the syringe we can readily appreciate whether or not the point of the needle encounters any resistance, or is perfectly movable in an empty space, or one only partially filled with semifluid material. But, presuming for a moment that I cannot be always confident that I have struck the cavity, does it matter? Practically, and according to me, no. That is to say, if you fear any bad results simply because the injection has been made into solidified tissue about the cavity. Indeed, I am more and more convinced that the best indication for these injections is in cases where the apices are *solidified* and not *softened.* I am borne out in this belief by my own experience. I have already injected in nearly as many cases of phthisical infiltration at its first stage as at a later period, and I have ordinarily seen apparent benefit result. As to the slight accidents that do occur, they can be easily allayed by an anodyne, external irritation of the chest, or rest in bed for a day or two. Of course, when we inject a cavity we have distinct objects in view, and, if we do not reach the cavity, we fall short of doing what we purposed to do. These objects are mainly to disinfect the sputa and to modify the walls of the cavity so that it will, little by little, tend to close up and cicatrize, and, in producing this result, we shall also expect the amount and character of the secretions from the lung-cavity to be sensibly changed for the better. When we inject solidified lung-tissue, we expect something very different. If there is an underlying inflammatory cause in very many cases of phthisis, and I still believe there is, we shall modify this inflammatory exudation considerably. We shall, perhaps, produce such changes in it as to render it fluid and easier of resorption or expectoration. As to the influence of iodine or other injections on the growth or vitality of bacilli, I have yet no very positive and determined views—any more, indeed, at this moment, than I feel perfectly sure in regard to the real, active rôle of the bacillus itself. Only a few months ago the chorus of the supporters of Koch was somewhat after this fashion :

> " What is consumption ? The bacillus.
> What is the bacillus ? Consumption.
> But what causes consumption ? Why, the bacillus.
> But what causes the bacillus ? Consumption.

And now I ask, in the words of Professor Loomis, " whether they [these microbes] are the *cause* or the *scavengers* of disease ? "

Clinically, of one thing I am quite confident, viz : intra-pulmonary injections of iodine benefit phthisical sufferers. Why not, therefore, give them the opportunity of the treatment, and await patiently the auspicious day when even changing theory may be wholly favorable to their use.

In conclusion, let me urge upon you all to earnestly consider the facts brought to your attention in this lecture. It is a subject pregnant with the most vital interest. Our hospitals and dispensaries show a fearful death-rate from phthisis. Ordinary methods of treatment are confessedly disheartening by reason of their very slight influence in arresting the march of a dread disease, when, moreover, the *odds* are, for other and manifest reasons, many against the *poor* sufferers.

I have studied with you a series of topics which makes me more hopeful of what I may be able to do for the arrest or cure of pulmonary phthisis. In this line of research may all of you find renewed courage and conviction. Perhaps some one among my hearers may yet discover the " arcana " of science in its conflict with this destroyer of our fellows.—*N. Y. Medical Journal.*

THE CHOICE OF REMEDIES.

By Laurence Johnson, M.D., New York.

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Twenty years ago there was much less faith in the efficacy of drugs in the treatment of diseases than there is to-day. One of the most prominent medical teachers and authors was wont to say in those days that medicine was worth all the study given to it, if for nothing else than to enable the practitioner to make a diagnosis and prognosis. And this remark meant far more than appeared in the mere words uttered, for while the carefullest attention was paid to the diagnosis, clinical history, prognosis and pathological characters of disease, the treatment was dwelt upon in such general terms as to mean anything or nothing. In other words, disease was considered principally from the natural history standpoint, and the catalogue of self-limited affections, with whose natural course the physician should not meddle, grew to uncomfortable proportions.

It is unnecessary to discuss the causes of this particular form of medical scepticism. That it existed cannot be questioned ; and that its existence operated as an obstacle to the success of men educated with that lack of faith, is equally capable of demonstration.

Naturally this heresy, like many others which for a time have ruffled the current of popular belief, did not long survive ; but none the less, some other heresies, it led to a train of evils that long outlived the cause which produced them. A generation of medical men went forth to unlearn the false precepts of their teachers by the hard road of practical experience. One cannot but smile at the pitying contempt which the recent graduate of twenty years ago had for the simple faith of the old practitioner, who actually believed he could with drugs moderate the course of pneumonia or cure a rheumatism. Yet such was the fact. This evil was, however, of a somewhat personal character, and served chiefly to handicap the individual practitioner. The faith of the public remained unshaken, and he who ministered most successfully to the public was most substantially rewarded. In reviewing this subject in the light of personal experience, bearing in mind also the experience of professional friends with whose history I am familiar, I am fully convinced that to this sceptical training more than to any one cause, are due many of the difficulties encountered in the early years of practice.

But other evils followed. If drugs were of doubtful efficacy. they could not be dispensed with. As already remarked, the public faith remained unshaken. The public, when sick, would have drugs. The theory of the self-limitation of disease, together with the apparent financial success of homœopathic practitioners, who, it was believed, administered pleasant-tasting or altogether tasteless medicines, while the disease ran its natural course toward recovery or death, pointed the politic road—that of making medicines as palatable as possible. And here seems to me to be the origin of one of the greatest from which we, as a profession, and our patients are suffering. From striving to render remedies more and still more palatable, efficiency has been largely sacrificed to elegance, and unless the tide be stemmed in some way the whirligig of time will again bring around an era of scepticism, based, however, upon a more substantial foundation. While I would not for a moment decry elegant pharmacy, within reasonable limits, I do most vehemently protest against its abuse, as at present so largely practised· Granting for the sake of argument that the proprietary pills, elixirs, and other compounds so largely used are compounded in accordance with their published formulæ, it cannot be doubted that their use begets in the physician a routine practice altogether at variance with the intelligent exercise of his calling ; and the more skilful he may be in diagnosis, the greater is the contrast of his treatment. But in very many instances, at least, these preparations do not contain what is claimed for them. This has been shown again and again by chemical analysis.

Then how shall we be guided in the choice of remedies to use in the treatment of disease? This question seems to me easily answered in words, though practically it requires more thought than has been our custom to bestow upon it. In the first place, we should bestow upon materia medica and therapeutics the same careful study as is commonly given to other departments of medicine ; the same careful attention to details as, for instance, is exemplified in practical, and consequently, successful antiseptic surgery. Knowing first the remedies within our reach, not by name merely, but having a practical familiarity with them as individuals, an intelligent appreciation of their properties and effects, and of their comparative relations to each other, we shall be prepared to use them intelligently.

But one may say, this of itself would require the study of a lifetime. By no means. Let one but learn to distinguish the wheat from the chaff, and the materia medica will, so far as he is practically concerned, soon shrink to comparatively small proportions. Suppose the practical surgeon were to provide himself with all the instruments which have been used since surgery began to be practiced, how many of them would be employed to-day?

Our materia medica is certainly anomalous. Every root and herb at any time employed, from Hippocrates down, must needs be included, together with almost every chemical which man's ingenuity or nature's fertility has provided. But how many of them are used? How many are worthy of use? Hardly a larger number than that of surgical instruments. So while in surgery the antiquated are labeled and placed in museums, in materia medica the good and the bad, the useful and the demonstrably useless are left side by side as if for use together.

While everyone is familiar, at least in a general way, with the articles of standard worth of the materia medica, few have paid sufficient attention to the subject to enable them to pass a decided judgment upon the great number of useless and inefficient ones; and it is in bhalf of these little-known drugs that our credulity is most frequently appealed to by blind enthusiasts or designing speculators.

The properties, uses and limitations of the mineral preparations of the materia medica are pretty well recognized and understood. Take the preparations of iron, for instance. Everyone recognizes that though iron in any form is a tonic, yet there is a wide difference in the applicability of different preparations to different conditions. The same may be said of mercury, potassium or sodium. The facts regarding these minerals are firmly fixed in our minds, simply because the knowledge of them is classified. Now, if the same plan be pursued with drugs of vegetable origin, our knowledge of them would be just as readily available. In a general way, the individual plants comprising a great natural family, may be said to be as nearly related to each other as are the different chemical compounds of iron to each other. Take, for instance, the order Solanaceœ, which furnishes us, among others, belladonna, stramonium, hyoscyamus and tobacco. In these four plants we have about all the efficiency that this order is likely to afford in the way of narcotic agents. Each one of these has a sphere of applicability almost entirely its own. This fact being conceded, why waste time and energy in fruitless experimentation in search of possible new agents in the order?

Take, as another instance, the great order Labiatæ—the mint family. We are all, I trust, reasonably well acquainted with the properties, uses and limitations of peppermint. Well, now, this plant in itself represents all the medicinal activity of the entire order—a very large one. Other plants have different flavors, and may on this account be more or less agreeable to some persons, but their medicinal action is entirely similar, if not absolutely identical. And yet it is not uncommon to find specific effects attributed to plants of this order, and some men believe it. The Cruciferæ, the mustard family, affords another instance of similar character. Mustard seed represents all that is to be extracted from the order; all the rest may be dismissed without thought or hesitation. And so one may pursue this course through the vegetable materia medica, excluding, without hesitation, scores upon scores of drugs which but encumber his path.

When one has gone through the materia medica in this manner, and excluded the articles which reason and common sense convince him are beneath his notice, he will be ready to make his choice from those which remain, of the remedies to use. And here I would not wish to be misunderstood. For my own purpose I exclude a large number of drugs, not because they are altogether valueless, but because there are others much more efficient, and it seems to me that we should choose for our use only the best attainable. To illustrate, the number of vegetable tonics is very great. Almost anything bitter is possessed of tonic properties. Now, almost any vegetable bitter may be used in such a manner as to cure intermittent fever. The bark of the flowering dogwood, magnolia, tulip tree, or willow will do it, as will also tansy, wormwood, or boneset, but what man of sense would think of employing any of them when cinchona or its derivatives are attainable?

I believe it was Sam Patch who died while making an effort to prove "that some things can be done as well as others." It seems to me there is considerable Patch-work in medicine of a similar character, only it is not the operator who dies in the experiment.

But, some one may say, such a course as this would commit a man to contentment with his present choice of remedies for the balance of his professional life. Not at all. By accepting the verdict of his predecessors as to the worthlessness of certain drugs, he in no way binds himself to reject new discoveries with claims that can be sustained. He will, however, be less credulous, and, on this account, less likely to experiment with anything and everything to which his attention is called.

Moreover, such an examination of the materia medica would show upon what an unsubstantial foundation the claims of many of the articles rest. I have, in not a few instances, traced back the history of a drug from author to author till I reached the original statement that it was used for such and such purposes by the aborigines. And in some cases it has been easy to observe that the original statement was copied by one after another with very little variation, the later authors including the article simply because their predecessors included it. Such medical histories of drugs should, I think, make us slightly sceptical, and so long as this scepticism does not reach the point of blind prejudice, both we and our patients will be the better for it.

In days when journals are published for the sole purpose of pushing new remedies into notice ; when men are employed directly or indirectly for the express purpose of manufacturing reputations for drugs, of which the proprietors of the paper have a monopoly, a little judicious scepticism is not far removed from wisdom.

However uncertain medicine may be, however inexact as a science, however disheartening it may often be in practice, it does present some things which are sure. Having, then, excluded from our materia medica the things which we consider beneath our notice, we can begin our choice of remedies for daily use by accepting at once all those whose reputations rest upon a solid foundation.

Of remedies of vegetable origin, we should probably err little in accepting all those which yield to analysis any principle capable of producing physiological effect upon the human system, taking into account, of course, the relation of the quantity of the crude drug to the principle found, and the amount of the latter required to produce sensible effect.

Of drugs which do not meet this requirement—the possession of a demonstrable active principle—we have at least the right to reserve our judgment. Accustomed as medical men of the present day are to look for a cause of every effect observed, it seems to me only rational that they should demand the reason why a drug does thus or so, and if this be not forthcoming, they have the right to expect a very clear demonstration of the fact that a therapeutic effect is produced before accepting it.

It is an easy matter to say that a drug produces good effects in this or that diseased condition, and not very difficult to compile statistics from medical literature in support of one's statements, but let one attempt to verify such statements by actual experiment, and he often finds the task a hopeless one. I refer, of course, to drugs having no appreciable active principle capable of producing physiological effects, at least in doses proportioned to the amount of the drug employed.

Take, as an illustration, viburnum, a drug introduced a few years ago as "nervine, antispasmodic, astringent, diuretic and tonic, and especially useful in the nervous diseases of pregnancy and in the prevention of miscarriage" (U. S. Disp., p. 1521). Let anyone endeavor to verify these claims, and he will appreciate the difficulty of the task, and probably end with the conviction that the drug is wholly useless. Such, at least, has been my own experience. And yet viburnum is employed to a very considerable extent, notably in threatened miscarriage. If the patient does not abort, the drug gets the credit; if she does, why the case was too far gone to be influenced. While we, as practitioners of rational medicine, so-called, are uniformly sceptical regarding the therapeutic claims made by practitioners of other schools, and rarely esteem their stasistics worthy of serious consideration, we will find plenty of just such unreliable material much nearer home if we care to search for it.

As with viburnum, so with many other more or less fashionable remedies—their reputed efficiency is commonly greatest in cases incapable of demonstration. Of such remedies we should choose, at most, a very small supply.

But with all the drugs of vegetable origin possessing demonstrable active principles at our command, we still have more than we need, and further discrimination is necessary in order that our armamentarium be not too unwieldy. Classification of the most important ones, based upon the effects which they produce, is essential to final selection. Such a classification must, however, of necessity be artificial and somewhat arbitrary, because of the varying effects produced by one and the same drug in different doses and in different conditions. Illustration of this point is scarcely necessary. Everyone has in his own mind, or should have, the drugs which he employs thus classified to a greater or less extent, but not everyone uses wise discrimination in selecting the proper drug from a given class when prescribing at the bedside. How many of us use opium unnecessarily? How many employ quinine antipyretically, without rhyme or reason? How many administer ergot, digitalis, arsenic, or strychnine without careful consideration?

Having by the analytical course which I have endeavored to sketch, reduced the materia medica—both organic and inorganic—to a reasonable compass, and having those remedies which we will permit ourselves to employ classified, how shall we be guided in making the final selection? For the choice of proper remedies at the bedside is, of course, our ultimate end and aim.

This question appears to me to involve three considerations, viz: 1. Efficiency. 2. Liability to do injury. 3. Ease or difficulty of administration.

There can be no question about the advisability of always using the drug which will most certainly produce the therapeutic effect desired, save as this may be modified by its liability to act injuriously upon the patient. This is a very important consideration. For example, opium is very potent in relieving pain, and, judiciously used, seldom does harm. And yet it cannot be safely used in very young children; and it should not be employed in adult life one moment longer than absolutely required, owing to the danger to the patient of the formation of the opium habit. I know that this danger is often exaggerated, but it does exist, and we should bear the fact distinctly in mind when we prescribe at the bedside. The same may be said of chloral, and of the inhalation of ether and chloroform. These drugs should never be used indiscriminately; the question of their efficiency should always be modified by their possible dangers, and when these dangers are greater than the ills for which it is proposed to use them, they should be replaced by safer, though less efficient drugs. Take, as another instance, aconite, veratrum and gelsemium, all used as arterial sedatives indiscriminately—commonly, however, by different physicians. Considered merely from the standpoint of efficiency, there is little choice between them, but a consideration of their relative dangers shows them in an altogether different light. Aconite need never do harm; veratrum often produces unexpected vomiting, purging and dangerous depression; and gelsemium is nearly as unreliable as lightning. So that you may use aconite with safety, veratrum with fear, and if you push gelsemium you should do it with positive dread of the possible consequences.

I might go on illustrating this point almost indefinitely, by comparing the drugs of different classes with each other, but it is unnecessary.

It remains to consider the efficacy of drugs as modified by the difficulties of administering them. As previously intimated, it has been more or less the fashion to consider this first. As this involves the question of how best to administer the drugs we have chosen, it deserves rather more attention than my limits will permit.

The patients to whom we administer drugs may be divided into three classes: 1. Those who are so ill as either to offer no objection to swallowing anything prescribed, or, on the contrary, strenuously objecting to everything. To the latter division of this class may be added young children accustomed to rule the house. 2. People who, though perhaps not quite sick, are still not wholly well, and who consume medicine largely as a matter of habit. 3. People who consult physicians for want of some more active employment.

The first class of patients, those who are really ill, of course, comprises the bulk of those with whom there is any difficulty. With adults not too sick to appreciate their condition, and consequently both able and willing to co operate with us, there is commonly little trouble in administering anything necessary, and we are only required to choose the most efficient preparation of the drug desired. And here at once arises the vexed question, what are the most efficient preparations? If we are willing to accept the opinions of those who claim to be extremely solicitous for our welfare—the manufacturing druggist—we can have this question settled for us in the shape of A's pills, B's granules, C's fluid extracts, etc. If, however, we consider it among ourselves, we shall probably reach different conclusions. Now, it is the habit of some to consider the alkaloids or other active principles of vegetables as the most efficient preparations, and to use them exclusively, making morphine, for instance, represent opium, atropine, belladonna, strychnine, nux vomica, and so on, overlooking the fact that these alkaloids do not fully represent the drugs from which they are derived. In other words, they fail to recognize the fact that there is a time to administer morphine and another for solid opium ; that, while strychnine has its uses, nux vomica has its peculiar sphere. Moreover, the extreme practitioners of this class often employ these potent active principles in the form of gelatin or other coated granules, whose ready solution in, and absorption from, the alimentary tract is a matter of conjecture. I am not in sympathy with this mode of practice ; still less with that whose commonest dose-measure is the hypodermic syringe. The best preparation of a drug I conceive to be that which most completely represents the crude article ; and, of vegetable remedies, this is more commonly in a liquid form. I would relegate alkaloids and other active principles to their proper place, and use them in solution, if practicable, by the mouth when possible, otherwise only when necessary. And when necessary to employ remedies in pill form, these should be freshly made, commonly by extemporaneous prescription, rather than turned out by the thousand dried, coated, polished and impregnable. And I firmly believe there would be much less complaint of the uncertainty of drugs if they were employed in this manner.

And here I wish to add one word for the benefit of those whose bugbear is *polypharmacy*—the giving of numerous drugs in one and the same dose. I see nothing irrational in the intelligent combination of drugs, and, theoretically, at least, no limit as to the number which may be thus combined and administered at a single dose. On the contrary, it seems to my mind much more commendable than the practice of frequent alternations, which only serves to annoy the patient. A young physician, in my hearing, once boasted of his physical endurance in watching with a patient six weeks, and administering medicine every 15 minutes. Though the patient lived, I hardly consider the case as evidence against the wisdom of combining remedies, if for no other purpose than to lengthen the intervals between doses. With remedies chosen in the manner indicated, I believe there will occur but little difficulty in treating all really sick people whose co-operation is obtainable. Regarding the obdurate and the fractious children I have no objections to make. Certainly the most elegant pharmacy will be of little avail.

As to the second class of patients, the habitual medicine-takers, why, it is altogether immaterial. If they require medicine at all, give it in the most efficient form, without regard to taste. On the whole, I think a decidedly bad-tasting mixture, one which stays by them, suits them best. Certain it is that some of the vilest tasting proprietary compounds have had the largest sales, and not because they restored those who consumed them, either. The same is true of pills: those which are the most drastic are most highly appreciated.

Regarding the third class, still less may be said. They consult you, as I have said, for the want of more active employment. If you care to bother with them at all—it is business that pays—let them have *elegant pharmacy*, the more elegant and less efficient the better.—*The Medical Age.*

THE SURGICAL TREATMENT OF GALL-STONES.

By Lawson Tait, F.R.C.S.

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The only reasonable explanation of the formation of gall-stone with which I am familiar is one by Dr. Thudichum, that they are formed of deposits of cholesterin and coloring matter round casts derived from the finer ramifications of the hepatic ducts. This explanation is at least consistent with all the facts which have come across my own personal observation in dealing with gall-stones from the surgical point of view. It is very well known that gall-stones form in the substance of the liver itself, and that they are found in the hepatic ducts sometimes of large size. I myself have cut two out of the substance of the liver, the larger being more than an inch in length. They had given rise to suppuration, and were undoubtedly the cause of the hepatic abscesses for which I operated. But the great majority of the cases of gall-stones with which we have to deal surgically are contained within the cavity of the gall-bladder, and for clinical purposes it seems to me necessary to divide them into two varieties. The symptoms which they give rise to, and to some extent the details of the operation required for their removal, differ considerably in the two varieties. I am inclined to believe that the pathology of the two forms is not quite alike; but I have not the time now, nor, indeed, the opportunities, required to follow out the research which this view suggests. Suffice it for the present for me to repeat that for clinical purposes there are two kinds of gall-stones—we may call them the solitary gall-stones and the numerous gall-stones. The solitary gall-stone is not always quite solitary, but it has rarely more than one companion. The numerous gall-stones, on the other hand, are practically indefinite in quantity, and are generally of a pretty uniform and not large size. It may be that the solitary gall-stone is a mere remainder of the multiple formation, as may be explained by-and-by, but I have not found any evidence that this is the case. Let me describe, in the first place, two typical cases, one of each of the two forms, in order that the differences in the symptoms and in the peculiarities of the operation may be distinctly seen. The first solitary kind of gall-stone was very well illustrated by the first case of cholecystotomy which I performed, the first successful case on record. It has been already published in detail in Vol. 63 of the Medico-Chirurgical Transactions.

Elizabeth M., aged 40, was admitted to the hospital on August 18th, 1879, having been sent to me by Dr. Abraham Colles, of Bridgnorth, on account of an abdominal tumor. She had been married eighteen years, had borne six children, her menstruation had always been normal, and she had enjoyed perfectly good health until the summer of 1878. At that time she began to suffer from severe spasmodic pains in the right side, these being always aggravated by walking or by lifting even slight weights. In September she noticed a swelling at the seat of pain, and this slowly. During the previous winter her pain became much more intense, her appetite failed, she lost strength and flesh rapidly, and on admission she presented an emaciated and almost cachectic appearance. She also suffered at that time from incessant headache and sickness and obstinate constipation. The seat of pain was over the right kidney, where there was a heart-shaped tumor, firm and elastic, in which no fluctuation could be detected, and which was extremely tender to the touch. On examination under ether this tumor was found to be perfectly movable toward each side; indeed, it could be pushed completely across the middle line to the left side. All round it a note of intestinal resonance could be produced. When pushed over to the left side its heart-like shape became very apparent; and when it lay on the left side of the vertebral column, with its apex directed downward and to the left, its base evidently retained a connection with the right side. A careful examination of the urine gave only negative results, though she spoke vaguely of its having been occasionally dark in color, muddy and deficient in quantity. At the consultation held upon the case a variety of suggestions were made for diagnosis, the chief of which were cystic enlargement of a floating kidney, a tumor of the head of the pancreas, and dropsy of the gall-bladder. But no decided diagnosis was attempted, and my proposal to open the abdomen, and thus ascertain the nature of the tumor, was agreed upon. On August 23d I opened the abdomen in the middle line to the extent of four inches, the umbilicus forming the centre of the incision. It then became at once evident that the tumor was a distended gall-bladder. I passed the needle of an aspirator into the apex and drew off a quantity of white, starchy-looking fluid, probably amounting to between twelve and fifteen ounces; but I cannot speak positively as to its amount, as it was unfortunately thrown away by a nurse immediately after the operation. I then opened the gall-bladder at the point of puncture, so as to admit my finger, and came at once upon a large round gall-stone lying loose in the cavity. This I easily removed, and on further search I found another of rather larger size, and probably of pear-shape, at the entrance of the duct, impacted in it, and evidently the cause of the dropsical distension of the gall-bladder. The removal of this stone was a matter of very great difficulty; in fact, it took a very much longer time to effect than all the other steps of the operation put together. From the long, narrow, funnel-like cavity in which it was lodged, and from the mobility of the bladder, it was very difficult to seize, and when at last I did get hold of it, I found it adherent to the mucous surface. I had then to consider the extreme likelihood that in removing this impacted stone I might tear the walls to which it was attached, and thus certainly kill my patient. I therefore performed a very careful and protracted lithotrity, chipping little fragments off the stone regularly all over its exposed surface till I had the satisfaction of lifting out its nucleus. I then passed the blade of a fine pair of forceps on each side of it, and by a gentle squeeze broke up the remainder, and was then enabled to lift it all out. The weight of the stone removed entire is 4.2 grammes, and that of the fragments I could gather of the broken stone is 2.9 grammes; but of the latter as much again must have been lost on the sponges which were packed into the wound during the process of crushing, and upon which I had constantly to wipe my instruments. I washed the cavity out repeatedly, and took every precaution that I could to secure that no fragments were left. I then stitched the wound in the gall-bladder to the upper end of the wound in the abdominal walls by continuous sutures, leaving the aperture into the bladder quite open; and then I closed the rest of the abdominal opening in the usual way. She rallied from the operation completely in a few hours. In the further progress of the case there is very little to report, save that the flow of bile from the wound continued till September 3d, when the dressings were discontinued, and zinc ointment was used in their place. The stitches were removed, and the wound was completely healed on September 9th, when she began to take solid food, up to that time her diet having been restricted to milk and beef-tea. On the 14th she sat up for the first time, and on the 30th she went home quite restored to health, free from pain and all her former symptoms, and having gained at least fourteen pounds in weight. This patient remains in perfect health.

In this case it will be seen that the symptoms were never of an extremely acute kind, but the patient suffered perpetual discomfort, and very often the pain was somewhat severe. The impaction of the gall-stone in the cystic duct in such a case prevents the flow of bile into the gall-bladder, and all the bile passes straight into the duodenum in a continuous stream. None of the experiments which have yet been performed on the livers of animals give anything like a satisfactory explanation of the function of the gall-bladder, nor of the function of the bile, nor even of the rate at which the bile is secreted. The experiments which have been performed in my cases of cholecsytotomy make it perfectly certain that the flow of bile is continuous in quantity, and, so far as I could determine, is fairly so in quality. The function of the gall-bladder seems to be the result of the meal system of humanity—that is to say, the secretion of bile is from time to time diverted, either wholly or partially, from the duodenum into the gall-bladder, and there it is stored until required, and, when required, a double stream, one from the liver and the other from the storage in the gall-bladder, is passed into the duodenum. I have come to another conclusion, of a curious and certainly novel kind: that the quantity and quality of bile is greatly influenced by the condition of the peritoneum; for one of the earliest and most important symptoms in abdominal trouble is the occurrence of bilious vomiting. I have uniformly found that, if I can get ahead of this by rapid purgatives, I save my patient from fatal peritonitis. I regard Seidlitz powders as far more important in abdominal surgery than all the ingenious contrivances of Lister. It is not unlikely, but it is not known to be the fact, that the double exit of bile, of which I have just spoken, takes place whilst digested food is passing through the duodenum—certainly one can imagine that it would be at that time most needed; whilst, on the other hand, as this bile would to some extent arrest the process of digestion already accomplished in the stomach, it is just possible that this theory is exactly the reverse of what actually happens. We are, indeed, in a condition of absolute ignorance upon all these questions. I have watched some of my cases with the greatest care to ascertain, if possible, when the contraction of the gall-bladder, which must have some kind of periodic discharge, took place, but I have entirely failed to obtain any clue to it. It must be perfectly clear that if, in such a case as the one I have described above, there should still remain, as doubtless there would, some machinery in action by which the gall-bladder could be made to contract periodically, it would do so in obedience to directions of a uniform kind, and failing to empty itself, by reason of the gall-stone impacted in its neck, it would cause discomfort and pain. This sort of indication has been noticed clearly in some of my cases, but I have not yet been able to determine any definite relations in its occurrence; but it is in such observations that we should find the clue to the true functions of the gall-bladder.

The solitary gall-stone, when cut in two, shows that it has grown very much like a calculus in the urinary bladder by consecutive layers of deposits. It is nearly always of fairly large size; and the number of rings which are comprised in its section show that it has been in its location for a considerable time. An instance in its history at last occurs by which, apparently in a contraction more than usually vehement for the emptying of the gall-bladder, it gets lodged in the neck of the cavity so firmly that from that moment no bile passes from the hepatic duct backwards into the gall-bladder.

Then we find that the secretion of the lining membrane of the gall-bladder itself, which most certainly must always be going on in health, is found to play a very important part in the pathology of the case. This mucus contains a ferment, a fact which I have ascertained beyond all doubt; but I have not thought it worth my while to make a protracted research into the nature and reaction of this interesting substance. It is contained in a considerable quantity in the mucus, which is always found in a distended gall-bladder when the solitary gall-stone is impacted in the cystic duct. This mucus is always of the same character, very like the old-fashioned quince bandoline used by the ladies of the early part of the Third Empire for fixing their hair. It resists putrescence for a very long time, and has some most curious reactions. It is probably secreted by the lining membrane of the gall-bladder during a period of activity, to be again to some extent absorbed during the periods of rest, and at each time of contraction of the viscus it aids in the process of driving the stone further and further through the cystic duct. So far as such cases have come under my own observation, the stone is very rarely indeed driven through the duct when of the large size which characterizes the solitary stone. The trouble in the gall-bladder finally leads to suppuration, and then the stone is evacuated by one of two ways: either by the adhesion of some piece of intestine to the inflamed gall-bladder, and the formation of a fistula between the two canals through which the stone is allowed to pass; or by the adhesion of the base of the bladder to the abdominal parieties, followed by suppuration, ulceration and the discharge of the contents of the gall-bladder through the outside wound. Large solitary stones have often had this history. I have seen several instances myself of both methods of termination, and medical literature is full of the records of such cases, and in not a few instances where the discharge of the stone took place through the intestine fatal intestinal obstruction has been the ultimate result. The feature which I want to impress upon my readers is that in these cases the stones are never numerous; and in the great majority of the instances they are quite single. In cases of solitary gall-stones, therefore, we find a very frequent incident in distension of the gall-bladder, the distension being so great as to present the appearance of a large pear-shaped tumor containing a pint, or perhaps even two pints, of opalescent mucus—never bile. The operation in such a case is easy enough, so far as the opening of the gall-bladder is concerned and the bringing of it outside ; but the removal of the calculus impacted in the distended neck of the gall-bladder is an extremely difficult thing. It consists really of a kind of lithotrity, because it is necessary to remove the fragments very completely. I have a pair of alligator forceps for seizing and crushing the stone, and I drive out the fragments by the aid of a stream of water, after the stitching of the gall-bladder to the wound has beed effected.

Different altogether is the condition which we find in cases of numerous gall-stones, and I need not remind my readers that many hundreds of these stones are sometimes found in the same gall-bladder, varying from a mere fraction of a grain in weight to eight, ten or twelve grains, the great majority of them, however, running to a very uniform size, between two and three grains. It does not require much thought to come to the conclusion that the pathological condition which brings about the existence of these calculi is in all probability a different one from that which leads to the formation of the solitary stone. Whether Dr. Thudichum's explanation would apply to both or not, is a matter of doubt ; but if it should, it is perfectly clear that the formation of the numerous stones must be a continuous action, and that the nuclei upon which they are coated must be thrown off in a sort of continuous fashion. After having been formed in the gall-bladder by a deposit of cholesterin, they are perhaps denuded of it to a certain extent by pressure, but greatly by friction, or so modified by pressure as to assume the facetted appearance so well known. I had once in my possession a gall-bladder, removed after death, full of stones, which were so perfectly facetted that they fitted together very much like the pips of pomegranate, each facet fitting to its neighbor with mechanical exactness ; unfortunately the specimen was destroyed by an accident. In the cases of solitary stones the nuclei are certainly much more rare, and their production is not continued for so long a time as in the other cases. The growth of the stones of both kinds of course takes place in the gall-bladder ; but it is clearly a delusion which has guided the men of great authority who, in a recent discussion of the question, expressed their belief that the gall-bladder is the cause of gall-stones, and that to prevent their production the gall-bladder must be removed. Nothing could be more absurd.

The existence of the urinary bladder does not certainly cause stones to grow there, and it would be quite as reasenable to remove that important organ after the operation of lithotomy as it is to advocate the removal of the gall-bladder after its contained stones have been evacuated.

In cases where patients suffer from numerous gall-stones the gall-bladder is never distended, at least has never been so in my experience, to anything like the extent or for the length of time which I have found it to be in the case of large solitary gall-stones. The reason of this is not difficult to find. In the first place, in the case of numerous gall-stones they are nearly always small, although an occasional large one is found amongst them. Their irregular size is such as to facilitate their passage through the duct, and also to permit the escape of bile alongside of them whilst they are being passed. They are not consequently lodged for any length of time in the duct, and they do not prevent the flow of bile into the gall-bladder permanently, as is done by a large solitary calculus when impacted. When we operate, therefore, in cases of small numerous gall-stones, we find them lying in bile, the gall-bladder to a large extent continuing to perform its functions. Before the operation a tumor formed by the distended gall-bladder may be discovered easily one day, and may have entirely disappeared before the next examination. This phenomenon I have repeatedly observed in three of my cases of cholecystotomy for numerous gall-stones. The distress which the general acuteness of the symptoms causes in these cases is infinitely greater than in those of large solitary stones, for the patient may be found to pass small ones in large numbers, and with great frequency, each stone causing terrible agony.

I recently operated upon a lady from Bristol who for six years had a series of attacks of gall-stone colic, which left her very short intervals for repose. During that time thirty-six stones were recovered from the fæces, and doubtless these constituted only a part of the total number passed. When at last, worn out with suffering, she came to me for surgical relief, I operated, and found twenty-two stones in the bladder. During the whole of this protracted suffering jaundice was present on the first attack only, at a time when she passed a stone barely 3.2 grains in weight, one of the smallest she had ever passed. This leads me to say that the common idea that jaundice is a frequent symptom of gall-stones must be entirely erroneous. It most assuredly never has been present in the cases upon which I have operated for large stones impacted in the neck of the gall-bladder ; and for the very evident reason that as the bile in such cases is not allowed to enter the bladder, but is obliged to pass freely into the duodenum, there has never existed any reason for the production of jaundice. In the case of a small stone passing through the duct, the greatest amount of distress seems to me to exist during that time when the stone is engaged in dilating the cystic duct. Jaundice can occur only during the time when the stone is resting in or passing through the common duct. This duct is shorter and wider than the cystic duct, and the distress occasioned by a stone passing through it is most certainly much less than that occasioned by the passage through the cystic duct, and after a first stone is passed through the common duct all its successors seem to follow with great ease. We have therefore, in my experience, the occurrence of jaundice in the passage of gall-stones absolutely limited to the passage of the first stone through the common duct.

The operation for the relief of cases of multiple gall-stones differs considerably in its details from the operation in cases of large solitary gall-stones. In the first place, as the gall-bladder is not distended, the diagnosis is not quite so certain, and when the abdominal section is made the gall-bladder is not so easily found. After it has been found and pulled out, it does not require to be emptied in the same way and with the same care, and when opened the bile will be found to flow continuously out of it and to require great care to prevent it flowing into the abdomen. A scoop or a pair of forceps will easily remove the great bulk of the stones from the bladder, but we never can be sure that we have removed them all. There may be one beyond the reach of the finger or of instruments, of small size, yet sufficiently large to form a serious obstruction to the passage into the duodenum of the contents of the gall-bladder after the biliary fistula is closed. One certain fact is this, that the fistula closes readily enough, but it will remain closed only until the secretion of the mucus in the gall-bladder has so distended the cavity of the organ as to begin to drive the gall-stone onwards. It then becomes a question as to how long the wound will remain closed, and how far the bladder wound can sustain the pressure required to force the gall-stone onwards. The wound yields first and most readily, and then we have the wound opening at intervals to give vent to a large quantity of clear mucus, which has extended the gall-bladder. In one case I was unfortunate enough to have left a stone close by, or perhaps almost at the junction of the cystic and common ducts, so that when the fistula closed the secreted mucus forced the gall-stone into the common duct, past the union of the cystic and hepatic ducts. The result of that, of course, was that the whole of the bile of the patient's system passed backwards into the gall-bladder and out through the biliary fistula. I hit upon a somewhat novel idea, and crushed the stone from outside the duct, and this I accomplished satisfactorily, as narrated in the *British Medical Journal* of July 12th, 1884, performing a sort of chole-lithotrity.

It may be well to describe somewhat in detail the method of operating so far as is common to the two kinds of cases; and, indeed, the preceeding is a very simple one. The details have been now completely elaborated, and every departure from them so far has only led to disasters. I have now performed the operation sixteen times, with uniform success, whilst the variations from the proceeding I am about to describe have been disastrous to the extent, in the hands of others, of between 50 and 60 per cent.

Having felt the position of the hepatic notch, I make an incision from the margin of the ribs over it directly, or almost directly, downwards, cutting carefully through the various textures until I reach the peritoneum. This is carefully seized by two pairs of forceps and pulled backwards, an opening having been made between the two pairs of forceps large enough to introduce my forefinger. With this I search for the gall-bladder; and sometimes I have experienced considerable difficulty in finding it. Generally speaking, the stones can be felt in the bladder before it is opened. In two cases out of the sixteen I have not found any gall-stones; in one case a mistake had been made, and in the other the disease was in all probability malignant. The details of these cases have already been published. Having found the gall-bladder, I cautiously bring its fundus towards the wound and seize it by a pair of forceps. If it is distended, it is first of all tapped and emptied; if it is not distended, or if it has been emptied, I lay it open by scissors or forceps to an extent sufficient to get a finger in; the edges of the wound in it are then seized by forceps and any bleeding points secured. My finger then explores the bladder, and by means of forceps or scoop all the stones within reach are removed. A continuous suture is then applied so as to accurately close the peritoneum by uniting the edges of the wound of the abdominal wall to the edges of the wound of the gall-bladder, the two peritoneal surfaces being too carefully adapted to each other. An indiarubber drainage-tube is then placed in the wound, and this is kept in for six or seven days, until it is possible to remove the stitches. If the stitches are removed along with the drainage-tube, the wound speedily heals; and if all the stones have been removed, the patient is already cured. If the wound reopens and bile discharges, or mucus from the gall-bladder, the remaining stone which occludes the passage must be dealt with, either by crushing from the outside of the duct or in some other way, as circumstances or the ingenuity of the operator may suggest. I certainly vouch for this, that so far as my cases have gone it is not known that they have any tendency to the reproduction of the gall-stones. Certainly they have not given any indication of it so far. I would point out that even if this did happen, an incision through the skin, probably only half an inch deep, over the site of the old scar, would reach the gall-bladder without opening the peritoneum at all, and any reaccumulation of gall-stones might be removed without the slightest difficulty or danger. I need not point out that in the event of the operation being performed which is suggested as the alternative to that which I have described, namely, cholycystectomy—after an accumulation occurred in a case of numerous gall-stones, as actually did occur to myself where a small gall-stone lodged beyond the junction of the hepatic and cystic ducts, the operation in which the gall-bladder was removed, would be of necessity fatal, because all the secretion of bile would find its way into the peritoneum. The detailed results of this operation of cholecystectomy have not been published, and what I know of them is only by hearsay, but I have a strong suspicion that the deaths in two of the cases are to be attributed absolutely to this cause. At any rate, the mortality of cholecystectomy is 50 per cent.; the mortality of cholecystotomy has not yet appeared.

Here I should like to say a word as to the method of dealing with statistics, which has become only too common within recent years, since statistics have been insisted upon in the realm of abdominal surgery. I certainly am very far from objecting to statistical information ; but such information, to be of the slightest value, must be complete, and it must be accurate. Alongside of it, and at the same time, must be furnished any qualifications which may render it more or less valuable. When speaking of the statistics of an operation, the mortality of a particular proceeding must not be confused with the mortality of a particular operator, still less with the mortality of a group of operations gathered indiscriminately from all kinds of sources. Thus nothing can be more fallacious than such a group of figures as I recently saw from the pen of a well-known American writer, who asserted that the mortality of a particular operation, with which my name has been very intimately associated, was something like 25 per cent., whereas, the real mortality of the operation is 2 per cent. He arrived at his conclusions by taking about 220 or 240 operations from the practice of nearly forty operators, each of whom had operated in from six to ten cases. It is perfect nonsense to call this the mortality of the operation ; it really was the mortality of some thirty or forty men bungling along in the early part of their experience. No man is born with an intuitive knowledge as to how such operations are to be performed. It need only be said that every surgeon in his early experience will have a mortality necessarily higher than when his experience is ripe in any particular operation. In the statistics which I am now alluding to the mortality was due, not to the operation, but to the inexperience of the operators. Nothing could be more startling than to contrast results like these with a similar number of operations taken from the records of three surgeons who could contribute between them nearly 400 cases. So it is with the operation of cholecystotomy. It has recently been condemned in a table composed of some twelve or fourteen cases, not any two of which have been performed by the same man. The mortality of such a table, again I say, is not the mortality of the operation, but that due to the mistakes of the operators. The true mortality of the proceeding is to be judged from a fairly large group of cases in the hands of one particular surgeon, and the largest group which can be yet offered is that in my own practice, of sixteen cases without a death. I therefore have no hesitation in saying that this operation is one in which the mortality is extremely low, very much lower than the mortality of the disease which it is proposed to cure by its means.

There remains to be spoken of only one other feature of this modern triumph of our surgical art—that is, it has become the fashion of late to apply to this proceeding a cannon of criticism which, as I have often said before, is not applied in general surgery. We who practice abdominal surgery are told that we have no business to perform these operations, save in cases where life is absolutely threatened ; that, in fact, we alone in the ranks of the medical profession should suspend our beneficent powers for the relief of suffering, and step in only with the hope of resuscitating a semimoribund patient. I turn round and ask my friends, the general surgeons, What about plastic operations ? Why should osteotomy for deformity ever be performed ? Why should the tendons for club-foot ever be divided ? The mortality of osteotomy is not nearly so low as the mortality of many of the operations which are performed by us for the relief of agonizing suffering in the abdomen. Certainly there is neither pain nor danger to life in the legs of a weakly child who is deformed, nor is there any justification upon such a line of argument for the divisions of tendons, nor for the performance of plastic operations for the remedy of deformity. Such a line of argument is, in fact, so perfectly foolish, that it requires only to be slightly studied to be completely abolished. Our functions are not those merely of the life-saver ; our greater and much more successful function is the relief of pain and suffering. Amongst all the many advances which modern abdominal surgery has seen, I claim that there is none so certain, nor so free from risk, nor so brilliantly successful as the surgical treatment of gall-stones. *London Lancet.*

PHILOSOPHY OF LONGEVITY.

* * * To make yourself miserable at forty in the wretched ambition to add a few worthless years to your score after you have turned seventy or eighty, is surely a poor-spirited sort of game. To spend one's life feeling one's pulse, looking at one's tongue, and asking one's self if one is treating one's constitution quite fairly, is not life at all. It is to live in a hospital, or, at any rate, an infirm-

ary. Still, there are some persons who are congenitally cautious, congenitally cold, congenitally calm. It is their nature to take things quietly, never to be in a hurry, never to excite themselves. They are content to sit in an easy chair for so many hours, read an agreeable book for so many hours, drive in a carriage for so many hours when the weather is favorable for so many hours, and to regulate their existence by clockwork. They may live to one hundred, they may live to one thousand, but in truth they have not lived at all. The man who really gets the best that can be got of life is the man who, with a fairly good constitution to begin with, is ready to squander it at any moment and on every occasion in a sufficient cause. He keeps no account of profit and loss with his vital energy ; he sees work to do, and he does it ; he sees pleasure to be enjoyed, and he enjoys it. He is alive all his life save when he sleeps, and he awakes from each fresh slumber looking the world cheerfully and courageously in the face, and ready, and even eager, to be a combatant when there is a good, honest fight, and a runner when there is a good, honorable race afoot. He may not live to be one hundred, but he may well live to be seventy, seventy-five, or even eighty. He may have a career, if not so conspicuous, yet as active, as varied and as restless as that, say, of Mr. Gladstone, and yet not be really old when time registers him among the aged. "Better fifty years of Europe than a cycle of Cathay ;" and better twenty years of uncalculated activity than the slow pulse and measured step of the circumspect snail that creeps surely on to one hundred. We are not denouncing centenarians. They are like angel's visits, few and far between, and they are too rare not to be welcomed. Moreover, we doubt not that they deserve their length of years. But it would be a misfortune if it was ever thought an object of life to live very long. The object of life is to live, live generously, live bravely. As Shakespeare says : "Ripeness is all." *London Standard—Sanitarian.*

REVIEWS AND BOOK NOTICES.

Transactions of the Thirty-Second Annual Meeting of the Medical Society of North Carolina, held at Durham, May, 1885. Pp. 146—xxiv.

This volume is being distributed as rapidly as possible. Its contents are varied, and shows the State Medical Society to have done a large amount of real business. When we consider how much is done in perfecting our organization in the work of the Board of Examiners and the Board of Health, and how much of this is new and untried ground, the small number of scientific papers is not surprising. There is no doubt that in years to come it will be a source of gratification to realize that the body of the Society labored with more assiduity for the accomplishment of the reforms which make such a large part of our record, than for literary or scientific effect. But now, that our work of organization has assumed such a definite shape, we will have no such apology to make in the future for not giving the medical world an abundance of well digested scientific work.

The address by President McDuffie was, by previous resolution of the Society, somewhat in the nature of a message, to direct attention to topics which he esteemed of importance. After paying an affectionate tribute to the honored dead, he dwelt with especial force upon the necessity of the preparatory education of medical students. Dr. McDuffie put the whole matter with unusual force, and very few men in the State are as deeply imbued as he with the educational needs of the day. His plea for thorough, prolonged and special preparation as a prerequisite to the study of medicine, was cogently presented, and is doubtless the key-note which must be sounded by the profession in its earnest movement for better educated doctors. We trust Dr. McDuffie's advice in reiteration of a resolution of the Society at its meeting in Raleigh last year, is being universally followed, viz: that no student should be admitted to the office to study medicine until he gave satisfactory evidence of his educational fitness to undertake it.

We thank Dr. McDuffie for his words of commendation for the work of the Journal, and still more do we thank him that he followed his own precept by contributing to our pages recently. For the body of the profession his words need still to be repeated, that original communications are so inadequately furnished us by our own doctors. We look for better things from them.

The "Clinical Record," presented by Dr. Robert S. Young, was awarded a prize of a case of surgical instruments by the Society It is proper to say in this connection that only two papers were presented, and the duty of the committee of awards was a very simple one.

Dr. Thomas Hill's paper on the "Hæmostatic Properties of Rag-weed" has been extensively copied by other journals, and we only regret that the mistake by the writer of this in supplying the author's name--neglected by the author, unfortunately—passed so long undetected as to be impossible to recall it except by delay and expense. We trust the author will be willing to overlook the error.

"Shall Woman Practice Medicine?" is the subject of the annual address by Dr. L. Julien Picöt. The speaker is full of ardor and vehemence in opposition to the movement, and he doubtless had his audience almost wholly in accord with him.

Dr. H. B. Weaver's on "Obstetrics and Gynecology" was very long, and was, of necessity, curtailed by the publication committee. In its present length, doubtless, it will be reread with pleasure and profit.

Dr. Julien Baker's "Case of Aphasia" would have been more interesting if the illustration sent to the Committee had been engraved and printed in colors, but the expense was considerable, and it was omitted.

"Micro-organisms in Relation to Disease" is the title of Dr. Hubert Haywood's paper, the annual essay for 1885. It was thoroughly enjoyed by his large audience, and without an exception no paper has ever been presented to the Society which was more timely or more exhaustive. We think the Committee was wise in publishing it in full.

The eyes of some of the younger members of the profession will light for the first time upon the "Code of Medical Ethics." This document has been much discussed, but not more vehemently by any than those who had not read it through. It is an admirable formulation of the moral principles which should be the guide of doctor's in their way through the labarynthian paths which lie between them and success. We trust it may not be allowed to go out of fashion to obey its precepts. The Constitution of the Society was reprinted, as ordered by the meeting, but it will be seen by a careful reading that it needs severe revision if to be of any use. It might be condensed with decided advantage.

The list of members has been rearranged alphabetically for the convenience of the Secretary and others consulting it to find the name of persons. It would be interesting to have the record with the place and date of graduation and licensing appended to each name.

We did not intend to mention every paper when we took the Transactions up, and we have tried not to indulge in fulsome praise, or grumble unnecessarily. We are chiefly gratified by the belief that this is the forerunner of an exceptionally good volume for the next year, and the President and Secretary will pretty soon now put the ball in motion for '86, and we trust that every person having the ability will respond cheerfully and promptly.

Lectures on Diseases of the Nose and Throat. By Charles E. Sajous, M.D. Illustrated with 100 Chromo-lithographs, from Oil Paintings by the Author, and 93 Engravings on Wood. Philadelphia: F. A. Davis, Publisher, 217, Filbert St., 1885.

The unusual activity of the specialists in the department of rhinology and laryngology within a few years is rather surprising. Volume after volume, from the modest pamphlet to the pretentious volume of hundreds of pages, issue from the press at short intervals. But since that of Lennox Browne's volume on diseases of the throat, none has come under our notice on such a scale. The author of this volume, like the author just mentioned, was possessed of artistic talent, and made his own colored illustrations. The table is large and clear, the lines leaded, the margins ample, the paper good. The execution of the chromos is in quite vivid red, but some of them are represented as seen under gaslight, and are therefore highly colored.

Cocaine, which has done such excellent service in diseases of the throat, is given a full measure of attention by the author. So also with other comparatively new remedies, such as iodoform, eucalyptol, chromic acid and others.

Many new and unique methods of applying remedies have been added, illustrated by appropriate wood-cuts when necessary, but not in such profusion as to confuse the reader. This volume will be distinguished as being a very excellent specimen of book-making, notwithstanding the many really superior works which have within a few months enriched the literature of medicine.

AN ATLAS OF CLINICAL MICROSCOPY. By ALEXANDER PEYER, M.D. Translated and Edited by ALFRED C. GIRARD, M.D. First Edition from MS. of Second German Edition, with Additions. Ninety Plates; with 105 Illustrations—Chromo-lithographs. New York: D. Appleton & Co., 1, 3 & 5 Bond St., 1885. [Price $6.00.]

This work is a very valuable acquisition to the profession, and is well worth the extreme pains which the translator and the publishers have taken in presenting it to the American profession. Those physicians who are experts will recognize at once the beautiful specimens which the author has collected, and enjoy the very excellent rendering of them by the engraver; and the unskilled microscopist will value these illustrations as standards of comparison. Blood, milk, urine casts and crystals from the bladder and kidneys, genitals, sputa, stools, stomach contents, fluid from abdominal tumors, secretions from the female sexual organs, and various micro-organisms provoking disease, have from one to several diagnostic microscopic illustrations.

The descriptive text is brief, but highly instructive, and the whole work is presented by the publishers with such superb finish, that it cannot fail to be appreciated by those who are striving to be more accurate in diagnosis.

PRACTICAL SURGERY: Including Surgical Dressings, Bandagings, Fractures, Dislocations, Ligature of Arteries, Amputations and Excisions of Bones and Joints. By J. EWING MEARS, M.D., with 490 Illustrations. Philadelphia: P. Blakiston, Son & Co., 1885. [Price (cloth) $3.75.]

This is the second edition of Dr. Mears' "Practical Surgery," which in seven years has become a stout volume of nearly 800 pages.

Surgical dressings, bandaging, fractures, dislocations, ligaturing arteries, imputations and excisions are treated very plainly and with good illustrations. This work deserves the name of manual, and both for its size and the practical value of its contents it will serve the student and the junior practitioners of general surgery an admirable purpose. The space devoted to fractures and dislocations—by far the most difficult and responsible part of surgery—is ample, and we notice many new illustrations explanatory of the text. Good books in this department of medicine are now not infrequent, and it is gratifying to realize that they are being produced in the United States, so that we no longer have to depend upon Ferguson, and Bernard and Huette as ready reference manuals. We can commend this volume to our readers.

A Reference Handbook of the Medical Sciences. Being a Complete and Convenient Work of Reference for Information upon Topics Belonging to the Entire Range of Scientific and Practical Medicine, and Consisting of a Series of Concise Essays and Brief Paragraphs, Arranged in the Alphabetical Order of the Topics of which they Treat. Prepared by Writers who are Experts in their Respective Departments. Illustrated by Chromolithographs and five Wood Engravings. Edited by Albert H. Buck, M.D,, New York City. Vol. I. New York: Wm. Wood & Co , 56 & 58 La Fayette Place, 1885.

Notwithstanding the long title of this volume, it does not convey the idea that it is a handsome quarto of over 800 double-column pages, and that this is only one-eighth of the whole work! Only an examination of such a volume can convey an adequate idea of its scope, as the editor well says. The arrangement of the subjects is in alphabetical order, beginning with Aachen (*Aix la Chapelle*). To each article is appended the name of the author, which is preceded by a sufficient bibliography, not so copious as to be bewildering or to appear pedantic. It can be easily understood, then, that sufficient space is given to every topic undertaken, and every subject embraced in anatomy, physiology chemistry, surgery, materia medica, pharmacy, medical jurisprudence, toxicology, therapeutics, including balneology, medical botany, climatology, midwifery, gynecology, etc., is undertaken at length. For instance, 17 of these quarto pages are devoted to the subject of *Antiseptics* (by Roswell Park); 16 to the *Arm* (by W. H. Murray, with original illustrations); 18 to *Arteries;* 20 to the *Bladder*, and so on.

The names of many well-known authors frequently occur, and the name of writers little known heretofore, except by an occasional medical journal article or a contribution to a Society Transactions, appear here for the first time. It is surprising, and, of course, gratifying, to see how versatile and prolific the pens of some of our younger men have become.

Therapeutical subjects are largely from the pen of Dr. Edward Curtis; botany by Dr. Wm. P. Bolles; surgery by Dr. Lewis A. Stimson, Dr. J. Collins Warren, Dr. Jos. Ransohoff, Dr. Thomas L. Steadman and others; diseases of the eye by Dr. John Green, Dr. James L. Minor, and Hasket Derby; pathology by Dr. William T. Councilman, Dr. John H. Musser, Dr. Mary Putman Jacobi, Dr. L. McLane Tiffany, and Dr. Thomas E. Satterthwaite; anesthetics by Dr. J. C Reeve; anatomy by Dr. M. H. Richardson, Dr. Francis J. Shepard and others. It is not necessary to detail further the division of labor which has been so wisely apportioned and so faithfully done, and it could not be done without doing injustice to some of the best contributors by overlooking them in such a multitude of subjects.

The wood-cut illustrations are very largely new designs, and many of them original, especially is this to be said of the anatomical illustrations; the botanical illustrations are mostly of foreign authorship (Baillon). The chromo-lithographic plates are four in number. The first one is a full page illustration of *Arnica montana*, the second Blood Spectra, the third four figures illustrating the pathology of cerebral hæmorrhage, the fourth illustrations of several forms of carcinoma.

No work with which we are acquainted bears any resemblance to this magnificent quarto, without, perhaps, we might compare Quain's Dictionary; but this latter volume is a ponderous, large octavo, printed in a type very trying to the eyes of the seniors in the profession, and lacking very materially the full treatment which is given in the "Reference Handbook," and is entirely devoted to practice.

The owner of the eight volumes will have a library complete in itself, admirably arranged for ready reference, and up to the advance line of progressive medicine. We have nothing but hearty praise for this great work, and congratulate Dr. Buck upon the organization of a literary-scientific corps which has had no superior, if an equal, in the history of American medicine.

EPILEPSY AND OTHER CONVULSIVE DISEASES: Their Causes, Symptoms and Treatment. By W. R. GOWERS, M.D., F.R.C.P. New York: William Wood & Co., 1885. Pp. 255.

This is the September number of Wood's Library of Medical Authors, and is a most excellent addition to the year's list of this successful series, now in its seventh year. We are promised in the series for this year also the "Diagnosis of the Diseases of the Brain and Spinal Cord" by the same eminent author, and we need hardly say that these two volumes will enrich any library. The success of Dr. Gower's writing can be more justly estimated by the frequency with which he is quoted by authors in the same department.

The study of epilepsy has always been a field where some of the best minds in the profession have wrought assiduously and hopefully; but few of the writers upon the subject have succeeded as well as Dr. Gowers. Especially has he made clear some of the difficult differentiation between hysteria and epilepsy, and his studies are founded upon a very large number of cases. His method of study is scarcely less valuable than his skill in presenting his topic. The detail of symptoms is richly intercalated with illustrative cases.

Dr. Gowers has not been able to add anything as to the nature of epilepsy by pathological anatomy; in fact, he says that "we must seek other evidence as to its nature than pathological anatomy affords. Pathology and experiment fail to take us further towards a definite conclusion, but from clinical observation we may gain other important information." He concludes, with Hughlings Jackson, that "the teaching of pathological anatomy, if inconclusive alone, is right in its indications in at least a large number of epileptic attacks, that the process of the fit commences in the cerebral hemispheres." Further on he says: "We are probably not justified in concluding that attacks never arise in the medulla. The extremely varied character of the auræ, referred as they are to every part of the organism, shows that the discharge may commence in any part of a very wide region, perhaps the whole of the brain, in which tensor-motor processes are represented. The cases are, however, very few which afford any clinical evidence that the *discharge* [i. e., the sudden violent functional activity of nerve cells, causing the spasm which the observer sees] commences in the medulla. Under the head of treatment the author passes by arsenic with the remark that its use in no case produces any marked effect on the attacks, but was used in a large number of cases on account of the readiness with which the bromide rash could be prevented by its use.

He has had no experience with a remedy which of late years has again been resorted to with marked effect viz: stramonium. Either alone, or in combination with the bromides, in fifteen-drop doses of the tincture three times a day, stramonium has been giving some excellent results, and deserves to be studied anew.

Excellent results are reported from the use of nitrite of amyl in the arrest of individual attacks. "If it produces flushing of the face before the patient loses consciousness, the attack is usually cut short." Trousseau's highly vaunted belladonna treatment does not stand in such esteem, and thinks it is rarely useful alone.

Many valuable suggestions can be found in this volume by a cursory examination, and one specially interested in the subject can do no better than to study this volume carefully.

JOURNAL OF THE ELISHA MITCHELL SCIENTIFIC SOCIETY for the years 1884–1885.

This is the second year's proceedings of the Mitchell Society, and it will be seen by the report of the resident Vice President, Prof. J. W. Gore, that the interest of the young society has been augmented during the year, and that the future prospects are good.

The papers contributed for the year are varied and of general scientific interest, as may be judged by the following list: "Latitude of Chapel Hill," by Prof. J. W. Gore; "The Manufacture of Acid Phosphate," by W. B. Phillips, Ph.D.; "Analysis of the Leaves of Ilex Cassine," by Prof. F. P. Venable; "On the Determination of 'Total' Phosphoric Acid in Fertilizers," by F. B. Dancy; "Analysis of Spiegel-Eisen," by Max Jackson; "Occurrence of Citric and Malic Acids in Peanuts" (Arachis hypogæa), by E. A. de Schweinitz; "Meteorological Record at Chapel Hill for Five Years—1880–1884"; "Certain Reactions of Phosphorus," by F. P. Venable; "Notes on a Petrified Human Body," by T. W. Harris and J. A. Holmes; "Analysis of a Deposit from Salt-making," by W. B. Phillips; "Analysis of Crystals of Dog-Tooth Spar from Ganuder Hall, 15 Miles Below Wilmington," by W. B. Phillips; "Some Notes on Plant Transpiration," by Prof. F. P. Venable; "Experiments to Determine the Effect of a Solution of Common Salt (Na. Cl.). as a Wash in Determination of 'Citrate Insoluble' Phosphoric Acid, to Replace Pure Water Wash," by F. B. Dancy; "On the Practical Quantitative Determination of Sugar in Urine," by James Lewis Howe; "A Preliminary List of Additions to Curtis' Catalogue of Indigenous and Naturalized Plants of North Carolina—Flowering Plants," by M. E. Hyams; "Some Attempts at Forming Heptylbenzol," by Prof. F. P. Venable; "Attempts to form a Mercurous Hypophosphite," by E. A. de Schweinitz; "Distribution and Character of the Eocene Deposits in Eastern North Carolina," by Prof. W. C. Kerr; "Ammonia in Saliva," by Max Jackson; "Notes on the Geology of the Region About Tampa, Florida," by Prof. W. C. Kerr; "Solubility of Barium Chromate," by J. F. Wilkes; "Taxodium (Cypress) in North Carolina Quarternary," by Prof. Jos. A. Holmes; "Analysis of Kaolin," by J. H. Manning; "The Twisting of Trees," by Prof. Jos. A. Holmes; "A Sport in the Leaf of Blephilia Ciliata, Raf.," by M. E. Hyams; "Analysis of Specular Iron Ore," by J. H. Manning; "Analysis of Red Hematite," by A. E. Wilson.

There is a short sketch of the life of Prof. W. C. Kerr, the second President of the Society, and we trust that the same loving pen may be engaged to give more elaborately the course of a scientific career which has shed lustre upon the State.

We are highly gratified to see that the Society secured such an excellent steel portrait of the late Rev. Dr. Curtis. It is admirably done, and will be a lasting memorial for one whose scientific fame is hardly at its zenith.

DRUGS AND MEDICINES OF NORTH AMERICA.

The seventh quarterly installment of this serial comes again to our table, completing the article on *Coptis trifolia* (Golden thread); *Aquilegia canadensis* (Columbine) and *Delphinium* (Larkspur) are introduced to complete the botanical series, but not because of noted medicinal qualities. The different species of Aconitum—A. uncinatum and A. Fischeri—are next considered and illustrated with good wood-cuts. *Actea alba* and *A. spicata* concludes the plants described.

This beautiful work pursues its slow way along, taking up plants many times of very slight medicinal worth, but always doing thoroughly what it undertakes. The typographical execution of the work is all that can be desired, but its extent may be estimated by the fact that the seventh number still continues the "Ranunculaceæ." No such work has ever been undertaken in this country, and the price—$1.00 a year—is a very small sum for so much valuable matter.

A TEXT-BOOK OF NURSING. For the Use of Training Schools, Families and Private Students. Compiled by CLARA S. WEEKS, New York: D. Appleton & Co., 1885.

The need of a book of reference and text-book for the nurses, covering more ground than the excellent "Notes" of Florence Nightingale, has been felt by the numerous nurses who are training for their business, and in this volume we have a good example of a carefully compiled work for this purpose. We believe nurses are less meddlesome, and obstruct less the course of treatment just in proportion to the amount of real knowledge they possess. The actual amount a woman should know to enable her to be capable as a nurse, and prevent her from instituting treatment on her own responsibility has not been marked out, but that such a book as this is needed shows how ambitious the new generation of nurses has become. We can recommend this work to those interested.

LEONARD'S PHYSICIAN'S POCKET DAY-BOOK. Bound in Red Morocco, with Flap, Pocket and Pencil Loop. Price, Postpaid, $1.00. Published Annually by the *Illustrated Medical Journal* Co., Detroit, Michigan.

This popular day-book is now in its ninth year of publication. It is good for *thirteen* months, from the first of any month that it may be begun, and accommdates daily charges for fifty patients, besides having cash department and complete obstetric records. There are also columns for the diagnosis of the case, or for brief record of the treatment adopted, following each name-space. Name of patient needs to be written but three times in a month. The book is seven and one-half inches in length, and is three and one-half inches wide, so that it will carry bill-heads or currency bills without folding. It is bound in flexible covers and weighs but five ounces, so that it is easily carried in the pocket.

INEBRIISM A PATHOLOGICAL AND PSYCHOLOGICAL STUDY. By T. L. WRIGHT, M.D., Columbus, O. 1885. William E. Hubbard, Columbus.

The author has given us a very thoughtful work on the complex subject of *inebriism*, as he terms it. He does not believe that the evil can be successfully attacked from a moral and religious standpoint and treated merely as a sin, only to be overcome by Divine grace; nor can it be treated as a *crime* and controlled by legal enactment. How medical skill can aid both the gospel and the law is set forth in a good, strong light. The description of the effects of alcohol is well prepared, and the moral tone which pervades the book is healthful. It is really gratifying to read a book on a subject which has called forth more clap-trap moralizing than most any other, but full of good common-sense, without a particle of the temperance lecturer's declamation.

A MANUAL OF WEIGHTS, MEASURES AND SPECIFIC GRAVITY. Including Principles of Meteorology; the Weights and Measures now in Use; Weight and Volume and their Reciprocal Relations; Weighing and Measuring; Balances (Scales) and Weights; Measures of Capacity; Specific Weight and Specific Volume and their Determination and Practical Applications, with Rules and Tables. By OSCAR OLDBERG, Ph.D. Chicago: Published by the Author, 1885.

Prof. Oldberg has long been known as a very skilful teacher of pharmacy and as a warm advocate of the metric system. As Medical Purveyor in the Marine Hospital Service, he was very diligent in propagating practical knowledge of the system to medicine and pharmacy. He states in this volume that his views have materially changed during the last year. He has been convinced that the weights and measures of the metric system are not best for use in practical medicine and pharmacy. * * * "Another grave objection to the use of the decimal system in medicine and pharmacy is to be found in the fact, brought to our attention by fatal results, that the safety of human life ought not to be allowed to depend in any degree on a decimal point, which may be misplaced, misunderstood, omitted or illegible. We are pleased to see the candor of the author, even at this late day, set substantially forth in a valuable and complete treatise on the subject of Weights and Measures.

RATIONALISM IN MEDICAL TREATMENT or the Restoration of Chemism the System of the Future. By WM. THORNTON. Boston: 1885.

What a pity to waste such beautiful, clear type and fine paper upon a wild goose chase!

CURRENT LITERATURE.

ABDOMINAL TAXIS FOR THE OBSTRUCTION OF THE BOWELS.

In the first of a proposed series of lectures upon the treatment of cases of obstruction of the bowels, Mr. Jonathan Hutchinson (*Medical Press and Circular*, October 7) advises a method of treatment which he described in a paper written a good many years ago as "abdominal taxis." This term was employed in order to distinguish it from taxis in hernia, and was intended to be applicable to certain manipulations used for the reduction of strangulated hernia within the cavity of the abdomen. Essentially differing from the conclusions of Mr. Treves at the recent session of the British Medical Association, who, in cases of acute obstruction, advocated absolute rest, and, if the symptoms do not promptly yield, early laparotomy, Mr. Hutchinson, in dealing with acute intra-abdominal obstruction of the bowel, recommends the following course: "First, the patient shall be placed in a state of anæsthesia to a full extent of insensibility, so that the abdominal muscles are all fully relaxed; then the surgeon is to manipulate the abdomen, pushing the intestines backwards and forwards vigorously as a mass; then he is to shake his patient after several strong assistants lift the patient, and shake the patient vigorously from side to side, and backwards and forwards; then he is to be held in the inverted position and vigorously shaken, so as to allow of any coil of intestine which may have been twisted having a chance of slipping back again. There are various other little details: for instance, he should be placed upon his back with his feet on the bed, and shaken. Lastly, in these altered positions he is to have enemata given him, copious enemata, and this especially while he is inverted."

This appears like vigorous treatment—certainly one which requires discrimination in the selection of cases. It is recommended in all cases of obstruction "in which no hernia can be discovered, and where no diagnosis can be made, such as of intussusception," and where no more special mode of dealing with the cause of the obstruction can be adopted, and may be repeated daily until the patient is relieved or he passes into a condition where it is obviously useless. Full doses of belladonna are of great assistance, and in a good many cases a laxative may be judiciously used, such as Epsom salts in very small doses repeated every two or three hours.

The taxis should be resorted to, in Mr. Hutchinson's opinion, in every case of abdominal obstruction directly after it passes the limits of mere constipation and as soon as it has been made certain that the obstruction is not low down or owing to hernia. The patient should abstain from food, should receive rectal nutritive enemata, and be kept under the influence of belladonna and opium. Several successful cases are reported by the lecturer, one of which was relieved only after being tossed in the air upon a sheet, and afterwards stood upon his head while an enema was administered.

In elderly persons, where the site of the stricture is thought to be in the colon itself, and probably malignant, lumbar colotomy is preferred to abdominal section. Where intussusception has been diagnosticated, laparotomy is advised ; but the eminent lecturer thinks that the exploratory operation merely for diagnostic purposes, ought never to be done. By this practice he believes lives have been sacrificed which might have been saved, and he accordingly enters a protest against early or exploratory laparotomy. In recording this opinion, however, he states that it is one which he holds subject to recantation in future years : in the further advance in surgery it may be found to be bad advice. There are some who may feel inclined to make this criticism now ; but the experience and deliberate judgment of such an authority as Mr. Hutchinson are certainly entitled to most respectful consideration.—*Medical Times.*

[NOTE.—Dr. W. G. Thomas, of Wilmington, has since 1859, or before that date, practiced taxis and position under chloroform, and large enemata, with success. In 1865 he demonstrated the fact that fluid could be pumped through the ileo-cæcal valve under chloroform by elevating the hips very high. We have seen the fluid gush from the mouth in intermittent jets, from a patient who was being treated in this manner for intestinal obstruction.—ED.]

WHAT BECOMES OF MEDICAL STUDENTS?

N C Med J (OS.) 16: 367-368, #6, Dec 1885.

This question, which is annually asked when our various medical colleges turn out their hosts of graduates, is answered in the *Brit. Med. Jour.*, June 20, 1885, by Sir James Paget, who has carefully traced out the career of one thousand students at St. Bartholomew's Hospital. Out of these twenty-three achieved distinguished success, holding good appointments or lucrative practices in good districts, or gaining more than ordinary esteem and influence in society. Five hundred and seven, or rather more than half, attained fair succes, being able to live by their profession or to gain promotion in ordinary appointments, maintaining in all cases a good reputation. One hundred and twenty-four had very limited success, not having made a fair practice within fifteen years after entering the profession, or appearing likely to do so, or were only just making an uncertain livelihood, or were still employed as assistants in ordinary practices, or were erratic, or doing much less than had been expected of them. Fifty-six "failed entirely." Sixteen of these ill-fated men did not get on in life, though no reason could be assigned to account for their failure, and ten failed through ill-health or some distinct misadventure. Ten were habitually irregular in their habits, and five failed because of scandalous misconduct. Fifteen were never able to pass examinations, "some because of idleness and listlessness, a very few through sheer want of intellect.’ Ninety-six, or nearly ten per cent., left the profession after beginning either its study or its practice; in the same space of time only seven entered the hospital after abandoning other studies or callings, and five of the seven again changed their minds. This is a tolerably clear proof that medicine is not a profession to adopt as a change or last resource, a fact that certainly does not apply to several other vocations.

Of the ninety-six three were wisely removed from their hospital studies by their friends, and thirteen left pupilage of their own accord or were expelled. Two retired through acquiring means which put them in a position to dispense with work of any kind; four, after beginning practice, had to leave in disgrace; three took to the stage, one with success; four gained commissions in the army ; three enlisted, one winning a commission ; one successfully took to the bar ; seven took holy orders ; twenty went into business ; nine became farmers ; three homœmopaths (all unsuccessfully) ; whilst twenty-four left the profession for various other pursuits. Eighty-seven died after beginning practice, twenty-one of diseases incurred in their duties, five by suicide, and one "judicially," attaining, nearly thirty years since, a terrible notoriety by his crimes. The remainder died of various diseases, when either prosperous or otherwise. Forty-one died when students, seventeen of phthisis, four (at least) of fever caught in the hospital, whilst two committed suicide.

From these statistics we may glean just what might have been expected through guessing, namely, that a large proportion of those who enter the practice of the profession manage to make a little money, or, at least, to pay their way ; that a very select few achieve fame (and still fewer fortune) ; that a few, not many, render themselves infamous, and that a considerable proportion become the victims of casualties.—*Med. and Surg. Rep.*

Caught by a Bacillus.—In a review of "Lusk's Science and Art of Midwifery," we were caught by a trap set by the artful author, who used the obsolescent word *bacillus* to mean a bougie or suppository, while the thoughts of the reviewer were running entirely upon the omnipresent bacillus, the renowned member of the schizophyte family. Although reviewers are supposed to know everything, there is nothing they know which they more heartily dislike than confessing ignorance and blunders, without, perhaps, it may be, having the *rod* used upon them.

Portrait of Rev. Dr. Moses A. Curtis.—An excellent *proof impression* of the portrait of Dr. Curtis, printed on plate paper for framing, can be obtained by remitting 50 cents to Prof. F. P. Venable, Chapel Hill, or directly to the North Carolina Medical Journal.

THE CURE OF ANGINA PECTORIS.

In the *Bulletin Général de Therapeutique*, for September 30th, Huchard has an important communication on this subject. In the first place, he distinguishes most carefully the pseudo-anginal attack from the true, and his remarks upon treatment apply to the latter alone. He regards the disease as an affection of the arteries of the heart, and not a cardiac neurosis, and quotes numerous facts in support of his position. As adherents to this view he claims Germain Sée, Potain and others, and even Lancereaux, who formerly regarded it as a neurosis. Perhaps the majority of writers on the subject are of the opinion, which has had numerous supporters since the days of Edward Jenner, that the actual lesion of the disease is in the coronary arteries.

An arterial malady must be met by arterial medication, and as the blood-pressure is always increased in the affection, all remedies which heighten the vascular tension must be avoided, as ergot and digitalis. He refers to a curious observation of Wesley Mills, in which anginal attacks followed the local application of ergot. For the relief of the paroxysms, we have at our command amyl nitrite and nitro-glycerine, which cause vaso-dilatation, lowering of the blood-pressure, and increase in the vigor and frequency of the heart-beats. They relieve the angina alone, and are in no way curative, But Huchard believes that the iodides possess the means of so modifying the arterial condition, that a positive cure may be effected. In 1883 he reported six cases which had been greatly benefited by their use, and since then he has had twenty-five patients under his care, of whom fifteen have recovered completely, six have been much improved, and in four cases the effect of the treatment was negative. The possibility of any of these being pseudo-anginal cases was carefully excluded. This brilliant result he attributes in a great part to the action of the iodides on the sclerosed coats of the vessels. The chief element in success is perseverance in the treatment for many months, at least fifteen to eighteen; from fifteen to forty-five grains of the salt are taken daily, until some months have elapsed from the last attack. The administration of the drug may be kept up for as long as three years, to insure durable and certain recovery. He prefers the iodide of sodium for prolonged use, as the potassium salt, when employed for many months, has a weakening effect upon the heart; moreover, it is better borne and more readily assimilated.

Details are given of six cases, in which the results of the treatment, as narrated, are truly remarkable, and certainly justify the prolonged trial of the remedy in this terrible affection. The usual care must, of course, be exercised in these cases to regulate the diet, and remove all sources of mental worry and disturbance. The four cases of failure show that the remedy is not always curative, but in such instances the arteries may be in a state of calcification and past medication.—*Medical News.*

THE SANITARY EXAMINATION OF POTABLE WATER.

While the determination whether a sample of water does or does not contain poisonous substances of a mineral nature, is not a matter of difficulty, the classification of a water as safe, suspicious or bad, so far as its organic constituents are concerned, can, in the present state of science, only be inferred from the results of examination by several methods. Unfortunately, these methods require great nicety of manipulation and considerable skill, so that they can only be undertaken in a well-appointed laboratory.

The facts to which most importance seems to be attached are—the quantities of organic carbon and nitrogen present in the dry residue of the water, the proportion of ammonia that can be obtained from the water, the amount of potassium permanganate required to oxidize the organic matter, and the quantities of nitrites and nitrates present.

Recent reports on water-analysis point to the mere presence of nitrites as particularly suspicious; and, although a physician can rarely undertake a thorough analysis of water, there are methods by which the presence of nitrites may be quickly detected with certainty. One of these methods consists in adding to about four fluidounces of the water to be examined a few drops of pure hydrochloric acid, then about half a fluidrachm of a solution of sulphanilic acid, and the same quantity of a solution of hydrochlorate of naphthylamine. The presence of nitrites is betrayed by a rosy or red color, which is developed in about twenty minutes, and the reaction will detect one part of nitrous acid in more than a thousand million parts of water. The other test is metaphenylene diamine, which produces a yellow color when added to water containing nitrites and acidulated with sulphuric acid. The first test is the more satisfactory ; but it is important that the acids used in each be perfectly pure.—*Medical Times.*

URTICA DIOICA (STINGING NETTLE) AS A HÆMOSTATIC.—Dr. C. J. Rothe ("Pharmac. Past ; *Therapeutic Gazette ; N. Y. Med. Jour.*) has experimented with the juice of the stinging nettle as a hæmostatic. The leaves, flowers and stalks of the young plant, gathered in the spring, are cut up fine, soaked for a week in 60 per cent. alcohol, and subjected to pressure. The liquid is filtered, when it is of a dark greenish-brown color, and has a spicy odor and taste. Applied on cotton, it rapidly arrests capillary hæmorrhage, and the clots formed are soft and tenacious.

Porcher quotes in *Resources of Southern Fields and Forests* items which show the nettle had some reputation a century ago. Stearns, in the *American Herbal* (1801) refers to its use in jaundice, nephritic disorders, and in hæmorrhage : "The juice snuffed up the nose stops bleeding, and a leaf on the tongue, and pressed against the roof of the mouth, will answer the same purpose. Linnæus, in his Veg. Materia Medica, alludes to its employment in hæmorrhage ; it was considered lithontripic and emmenagogue, and adapted to those in whom the hæmorrhagic diathesis prevailed ; all of which opinions I quote, says Dr. Porcher, as coming from old authors.

Also the same author gives some items of interest about another nettle—*Urtica urens* (Dwarf nettle) : "In the supplement to the supplement to the Dict. de Nat. Med., by Merat & de Lens, 1846, we have an account of the remarkable hæmostatic virtues of this and the U. dioica, also found in S. C. [Found everywhere.] It had originally obtained some favor in this respect, and was used by

Sydenham, but had for a long time fallen into disrepute. It has been reserved for M. Guinestet to restore the public confidence in it. * * * He advises it in hæmorrhage in which bleeding was instantly arrested ; two to four ounces of the juice were given, taken internally and in the form of an injection. It has also been successfully employed in spitting of blood and epistaxis, and cases of two months duration were cured." (See Porcher's *Southern Fields and Forests*, Charleston edition, 1869, p. 308–309 for other evidence, especially experiments in the coagulation of blood.)

JAUNDICE AND PAIN IN BILIARY COLIC.

Mr. Lawson Tait, in the *Lancet*, July, 1885, offers some suggestions as to the reason why, during the passage of gall-stones, there is frequently no jaundice. In fifteen cases of cholecystotomy there has been no history of jaundice, either in the skin or in the urine, during and after the passage of gall-stones, is of extreme rarity, and not, as has been believed, common. Mr. Tait believes that the explanation of this fact lies in the following anatomical conditions of the cystic and common ducts. The common duct is not so long (3 inches) as most text-books assert, and is much less rigid and more easily dilatable than the cystic duct, which is larger than as usually described, namely, one inch. Hence, we can understand how a stone, if not of very great size, will cause intolerable agony while passing through the unyielding cystic duct, and with a trace of jaundice ensuing, the gall-bladder alone being its propellent force ; but the moment it enters the common duct the extending impulse will be increased by the influence of the whole excreting force of the liver, so that its passage through the common duct is more rapid. The chief symptom, then, that of pain, is due to the slow passage of the calculus through the unyielding cystic duct, whilst its rapid passage through the easily distended and much larger common duct gives no time, in the majority of instances, for the production of jaundice, which only takes place after long-continued obstruction of this, the common, duct.—*Boston Medical and Surgical Journal.*

READING NOTICES.

Mr. Chamberlain :—Dear Sir :—Your Patent Water Closet Seat has been used in my family with decided success.

Yours respectfully,

W. M. Pippen.

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J. L. Grant, M.D., of Carrollton, Mo., states: "Wishing to be of benefit to any poor sufferer with Asthma, I will say that my wife is subject to Asthma and has been for years. She had a severe headache during one of her spells, and I gave her a dose of Tongaline, which relieved her of the Asthma. I have tried Tongaline with her several times since when she was suffering, and in every instance the Asthma was checked. I recommended it to Mr. Jos. Black, a young gentleman of our town, and he says it relieved him every time taken. I know you do not recommend it for Asthma, but I can safely do so."

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Cases Treated with Pinus Canadensis.

1st. Mrs. J. D., mother of three children, had ulceration of cervix, also severe vaginitis. I applied Kennedy's Pinus Canadensis, using a small glass syringe. In a short time she was entirely well.

2d. Mrs. B. N., mother of two children. Vaginitis was very severe, also two very bad ulcers on cervix ; had been under treatment with three other doctors for two and a half months ; applied for treatment June 1st, visited her, found her in a precarious condition, I applied Pinus Canadensis twice daily ; visited her again June 10th ; much improved ; June 18th entirely well. Charged him $21 and got the praise of predominating over three old M.D's.

I can't practice my profession without Pinus Canadensis.

3d. Miss B., age 14, had necrosis of tibea. I applied Pinus, also gave her a tonic—treatment entirely cured her.

Yours truly,

W. R. Pennington, M.D.

Sweet Home, Mo., July 31, 1885.